ORCHIDACEAE NOVAE MALAYENSES, XII.

Auctore

J. J. SMITH

Macodes atra J. J. S., n. sp.

Caulis teres, carnosus, nitidule fuscovirescenti-niger, minute pallide puncticulatus. *Folia* c. 6, leviter inaequilateraliter ovata, breviter apiculato-acuminata, basi rotundata breviter in petiolum contracta, margine laxissime undulata vel recurva, carnosa, nitidule virescenti-nigra, nervis 5 majoribus nonnullis minoribus intermixtis argentatis curvatis tenuissimis plus minusve distinctis praesertim medianis nonnullis venis obliquis conjunctis, subtus nitidule sordide rubello-rubescentia, c. 5.5-7.25 cm longa, 3.75-4.25 cm lata, inferiora in petiolum brevem contracta; vagina tubulosa, colore laminae paginae inferioris, cum petiolo ad c. 2.6 longa. *Inflorescentia* erecta, laxe multiflora, pedunculo pubescenti, inferne sordide brunneo, superne dilutiore, c. 18.5 cm longo, vaginulis c. 5 inferioribus plusminusve foliaceis superioribus sensim in bracteas vergentibus donato, rachide pedunculo simili c. 7 cm longa, cum floribus 2.75-3.5 cm diam. *Bracteae* adpressae, ovata-triangulae, acuminatae, concavae, dorso puberulae, ciliolatae, rubellae, c. 1.3 cm longae, 0.75 cm latae. *Flores* erecto-patentes, non resupinati, asymmetrici, c. 1.7 cm lati, sepalis dorso sparse pilosis petalisque rubellis apice albis praesertim sepalis lateralibus basi olivaceo-suffusis apice stria obscuriore notatis. *Sepalum dorsale* horizontale, ovatum, leviter triangulo-contractum, obtusum, concavum, 1nervium, c. 0.82 cm longum, 0.45 cm latum. *Sepala lateralia* divaricata, laxe undulata, apice subcucullata, subinaequalia, late oblique subovato-elliptica, obtusa, 1nervia, c. 0.85 cm longa, 0.525 et 0.6 cm lata. *Petala* sepalo dorsali agglutinata, vix inaequalia, oblique semiovato-lanceolata, falcatula, apice leviter contracta, obtusa vel subacuta, inaequilatera, 2nervia, c. 0.85 cm longa, 0.26-1.275 cm lata. *Labellum* saccatum, 3lobum, valde asymmetricum, subtus longitudinaliter sulcatum, extus utrinque inter lobos laterales leviter verruculoso-incrassatum, supra saccum marginibus valde incurvis oblique canaliculato concavum, album, basi fuscescens, inexplanatum c. 0.55 cm, explanatum 0.94 cm longum; lobi laterales basi latissimi, antice non producti, rotundati, explanati cum sacco hypochylium rotundato-quadratum c. 0.6 cm longum 0.54 cm latum facientes; lobus intermedius valde oblique recurvus, spathulatus, ex ungue canaliculato-lineari explanato c. 0.15 cm longo 0.12 cm lato in laminam concavam transverse ovalem subreniformem 0.24 cm

longam bene 0.4 cm latam abrupte dilatatus; saccus ab ovario patens, rotundatus, postice alte sulcatus, impressione conspicua intus glandula instructa in utraque sulci parte, c. 0.26 cm longus. *Gynostemium* cum ovario angulum subrectum faciens, superne incurvum, leviter tortum, horizontale, clavatum, subtus infra stigma lamellis 2 minusculis longitudinalibus parallelis oblique triangulis obtusis postice cum gynostemio angulum rectum antice angulum obtusum facientibus donatum, album, c. 0.6 cm longum, clinandrio valde inflato-cucullato, dorso convexo, margine utrinque angulato. *Anthera* basi in clinandrium immersa, cucullata, elongato-cordato-triangula, leviter acuminata, acuta, apice recurvula, lobulis basilaribus subretusis, c. 0.375 cm longa. *Pollinia* 2, clavata, bipartita, glandula breviter triangula. *Rostellum* conspicuum, porrectum, tortum, lineari-oblongum, supra subtusque canaliculatum, apice sinu rotundato breviter bidentatum. *Stigma* prominens, transverse ovale. *Ovarium* brevissime pedicellatum, tortum, apice leviter attenuatum recurvulumque, longe glanduloso-pilosum, c. 1.25 cm longum.

HABITAT? (Cult. in Hort. Bog.).

According to an information of the curator of the Buitenzorg Botanic Gardens this plant was received from Europe. As I could not find a description suiting it I have described it.

Description from a cultivated specimen and flowers preserved in alcohol.

Zeuxine baliensis J.J.S., n.sp.

Pusilla. *Caulis* e basi decumbente radicante erectus, pars adest 3.8-4.2 cm longus, florescentia folia c. 3-5partim marcescentia gerens. *Folia* patentia, oblongo-ovata, acuta, basi obtusa abrupte in petiolum contracta, 3- sub 5-nervia, costa media dorso prominente, ad c. 1.95 cm longa, 0.85-1 cm lata, folium summum minus; petiolus canaliculatus, c. 0.23-0.25 cm longus; vagina laxius tubulosa, c. 0.35-0.55 cm longa. *Inflorescentia* erecta, laxe pauciflora, pedunculo longe crispule piloso, c. 7.25-7.5 cm longo, vaginulis c. 3 tubulosis superne ciliatis donato, rachide pedunculo simili, c. 1-1.4 cm longa. *Bracteae* adpressae, e basi valde dilatata ciliolata abrupte longe subulato-acuminatae, dorso parce pubescentes, concavae, 1nerviae, c. 0.425 cm longae, fere 0.3 cm latae. *Flores* c. 3-5, parvi, fere 0.4 cm longi, sepalis parallelis. *Sepalum dorsale* ovato-triangulum, anguste obtusum, valde concavum, dorso praesertim basi parce longe pilosum, 1nervium, c. 0.325 cm longum, 0.275 cm latum. *Sepala lateralia* oblique oblongo-triangula, obtusa, concava, dorso praesertim basi parce pubescentia, 1nervia, fere 0.3 cm longa, 0.15 cm lata. *Petala* sepalo dorsali agglutinata, inaequilatera, semirhombea, obtusa, 1nervia, c. 0.3 cm longa, medio bene 0.1 cm lata. *Labellum* cum ovario angulum obtusum faciens, hypochylio ovoideo-conico valde concavo marginibus gynostemio adpresso basi intus utrinque callo conspicuo lineari-oblongo compresso valde recurvo donato; marginibus ante gynostemium incurvis contiguisque, apice in laminam transverse oblongam apice subretuso bilobulam dilatatum, totum c. 0.3 cm longum, lamina fere 0.1 cm longa, 0.26 cm lata, lobulis

divaricatis falcatulo-recurvis oblongo-quadrangulis c. 0.075 cm latis. *Gynostemium* brevissimum, c. 0.175 cm longum, clinandrio conspicuo concavo. *Anthera* cucullata, breviter ovato-cordata, apice in rostrum longum oblongum obtusum producta, c. 0.18 cm longa. *Pollinia* brevia. *Rostellum* alte 2partitum, laciniis late linearibus obtusis. *Stigmata* in margine antico truncato appendicis horizontalis subquadratae in facie antica gynostemii. *Ovarium* fusiforme, basin versus paulo attenuatum, 6sulcatum, longe reverse pilosum, c. 0.5 cm longum. *Capsula* immatura erecta.

BALI: Goenoeng Kelatakan, 435 m (Exp. R. MAIER, SARIP n. 144, 27 July 1918).

Allied to *Z. amboinensis* J. J. S. and *Z. viridiflora* J. J. S., but much smaller in all its parts, with few-flowered inflorescences, a not acuminate dorsal sepal, etc.

Description from two dried specimens.

Coelogyne rhizomatosa J. J. S. in Rec.trav.bot.néerl. I (1904), 146 cum ic., etc.

var. **quinquelobata** J. J. S., n. var.

Differt a typo gynostemio apice quinquelobato.

TERNATE: North Foramadiahi, 1000 m, epiphytical in forest, scattered (V. M. A. BEGUIN n. 1463, 6 March 1921; „flowers light yellowish green").

Microstylis sulamadahensis J. J. S., n. sp.

Caulis erectus, sicco tenuis, c. 6.5 cm longus, inferne paucivaginatus, superne 5folius. *Folia* oblique ovata ad oblongo-ovato-elliptica, acutata vel subcontracta, acuta, basi valde oblique in petiolum contracta, nervis c. 4 majoribus subtus prominentibus pluribusque tenuibus, sicco membranacea, c. 9.5-12.5 cm longa, 5-4,3 cm lata, infimum parvum; petiolus late canaliculatus, cum vagina brevi tubulosa c. 4-2 cm longus. *Inflorescentia* erecta, laxius multiflora, pedunculo angulato, c. 8 cm longo, rachide angulata, c. 21 cm longa. *Bracteae* reflexae, lineari-triangulae, ad c. 0.5 cm longae. *Flores* mediocres, fere 1.1 cm longi. *Sepalum dorsale* deorsum spectans, marginibus revolutis tubulosum, anguste oblongum, apice angustatum anguste obtusum, 3nervium, fere 0.6 cm longum, fere 0.2 cm latum. *Sepala lateralia* patentissima, semireflexa, marginibus valde revolutis, oblique oblongo-ovalia, subfalcata, rotundata, 3nervia, c. 0.46 cm longa, 0.24 cm lata. *Petala* reflexa, marginibus valde revolutis, oblique linearia, obtusa, retusa, 1nervia, c. 0.575 cm longa, 0.08 cm lata. *Labellum* hippocrepidiforme, medio incrassatione conspicua longitudinali latiuscula ad basin laciniarum terminante medio altissima utroque latere abrupte limitata dimidio inferiore fovea longitudinali anguste lineari donata, antice ambitu late rotundatum, laciniis 10 conspicuis 2 extremis triangulis exceptis subulatis falcatulo-incurvis acutis extrorsum decrescentibus, basi lamella parva gynostemio adpressa instructum, auriculis conspicuis subparallelis rectis oblongo-triangulis obtu-

siusculis acutiusculisve, c. 0.5 cm, cum auriculis 0.9 cm longum, 0.63 cm latum, laciniis ad 0.16 cm longis, auriculis 0.4-0.45 cm longis basi 0.25 cm latis. *Gynostemium* dorso convexum, apice dilatatum, c. 0.2 cm longum, apice 0.15 cm latum, clinandrio concavo semiorbiculari. *Anthera* plane cucullata, transverse reniformi-ovalis, apice late rotundata, fere 0.1 cm lata. *Rostellum* membranaceum, sinu satis alto semiorbiculari bilobulum. *Ovarium* pedicellatum, leviter curvatum, 6costatum, 0.55 cm longum.

TERNATE: Soelamadiahi, 15 m, young forest on eruptive grounds (V.M.A. BEGUIN n. 1379, 8 February 1921; „leaves light green flowers dull purple").

Allied to *M. foetida* J. J. S. but with a much longer peduncled inflorescence, narrower petals, and a much longer differently shaped lip.

Description from herbarium.

Oberonia punctata J.J.S., n. sp.

Caulis elongatus, compressus, carnosus, dense foliatus, c. 10-12.5 cm longus, cum foliis 1.5-1.8 cm latus. *Folia* c. 17, inarticulata, brevia, erecto-patentia, oblique triangula, acuta, supra magnam partem fissa, carnosa, dorso cum vagina angulum facientia, margine superiore c. 1.75-2.25 cm, dorso tota 1.9-2.4 cm longa, apice non fisso 0.45-0.7 cm, apice vaginae 0.85-0.9 cm lato, inferiore decrescentia. *Inflorescentia* dense, multiflora, cylindrica, c. 8-12.5 cm longa, 0.6-0.75 cm diam., apice laxissima, pedunculo glabro, c. 1-1.75 cm longo, bracteis numerosis adpressis donato, rachide multicostata, glabra. *Bracteae* adpressae, oblongo-triangulae, subulato-acuminatae, dense fimbriato-laceratae, concavae, c. 0.2 cm longae, fere 0.125 cm latae. *Flores* in pseudoverticillos c. 8meros dispositi, subpatentissimi, bene 0.2 cm lati, 0.25 cm longi, sepalis petalisque patentissimis vix recurvulis convexis glabris. *Sepalum dorsale* subreversum, ovato-triangulum, obtusum, basi latum, c. 0.08 cm longum, 0.075 cm latum. *Sepala lateralia* divaricata, oblique ovata, obtusa, basi lata, c. 0.1 cm longa, bene 0.08 cm lata. *Petala* inter se angulum obtusum facientia, sepalis multo angustiora, oblique oblonga, apicem versus angustata, obtusa, bene 0.08 cm longa, 0.03 cm lata. *Labellum* cum ovario angulum obtusum faciens, concavum, 3lobum, 3nervium, nervis exterioribus intermedium superantibus, explanatum panduratum, lobis lateralibus incurvis, reversis, divergentibus, oblique suboblongis, obtusis, lobo intermedio conspicuo, hypochylio paulo latiore, transverse ovali-obreniformi cum lobulis oblique rotundato-trapezoideis eroso-denticulatis divergentibus sinu satis conspicuo triangulo sejunctis, totum c. 0.175 cm longum, ad lobos laterales fere 0.15 cm, parte constricta fere 0.1 cm latum, lobo intermedio 0.1 cm longo 0.15 cm lato. *Gynostemium* breve, latius quam longum, dorso convexum, c. 0.025 cm longum, apice truncatum, clinandrio transverse ovali concavo. *Anthera* cucullata, breviter cordata, obtusa. *Stigma* transverse ovale. *Ovarium* pedicellatum rectum, 6angulatum, glabrum, c. 0.25 cm longum.

SUMATRA. West coast: Goenoeng Singgalang, 1900 m (E. JACOBSON cult. sub n. 1319; „leaves yellowish green densely dotted dark green, rachis

light green, bracts orange brown with green dots, flowers orange brown, anther light yellow").

In the shape of the flowers this resembles *O. spathulata* LNDL. but it has a glabrous rachis and flowers. SCHLECHTER would probably put it in his section *Otoglossum*.

As Mr. JACOBSON points out the plant is characterized by the dotting of the leaves and this character has been preserved in the alcohol-material from which the above description has been drawn up, but it is not the only species which possesses a similar punctation.

Oberonia agamensis J. J. S., n. sp.

Caulis approximati, elongati, c. 5-8 cm longi, 8-9folii. *Folia* erecto-patentia, leviter falcatulo-incurvula, inarticulata, lineari-lanceolata, sensim acutata, acuta, lateribus convexa, supra versus basin fissa, carnosula, superiora ultimo excepto longissima, tota c. 3.4-8.75 cm, parte non fissa 1.9-5.7 cm longa, 0.5-0.85 cm lata. *Inflorescentia* dense multiflora, cylindrica, c. 0.55 cm diam., pedunculo incluso c. 1.7 cm longo, superne pluribus vaginulis bracteiformibus adpressis donato, rachide c. 8costata, glabra, c. 4.8-7.75 cm longa. *Bracteae* adpressae, triangulae longe acuminatae, eroso-laceratae papillosaeque, concavae, bene 0.2 cm longae. *Flores* patentes, rachidi paralleli, labello apicem rachidis versus spectantes, c. 0.2 cm lati, 0.27 cm longi, sepalis dorso papillosis petalisque patentissimis. *Sepalum dorsale* ovatum, acutiusculum, fere 0.1 cm longum, 0.07 cm latum. *Sepala lateralia* divaricata oblique ovata, acutiuscula, leviter concava, 1nervia, fere 0.1 cm longa, 0.075 cm lata. *Petala* inter se angulum obtusum facientia, lanceolato-triangula, apicem versus sensim angustata, anguste obtusiuscula, irregulariter marginata, c. 0.1 cm longa, 0.03 cm lata. *Labellum* 3lobum, leviter concavum, 3nervium, explanatum ambitu quadrangulum, supra basin paulo constrictum, excavatione ovata supra basin, c. 0.15 cm longum, basi truncata c. 0.1 cm, apice 0.12 cm latum, lobis lateralibus basilaribus brevibus incurvulis triangulis rotundato-obtusis, lobo intermedio multo majore cuneato-quadrangulo bifido, lobulis divergentibus sinu conspicuo sejunctis oblique quadrangulis margine exteriore irregulariter lacinulatis. *Gynostemium* brevissimum, latum, dorso convexum, cum anthera c. 0.03 cm longum, clinandrio transverso concavo. *Anthera* porrecta, cucullata, ovato-triangula, obtusa. *Rostellum* porrectum, triangulum, obtusum. *Stigma* transversum. *Ovarium* pedicellatum rectum, 6costatum, fere 0.2 cm longum. *Capsula* trigona, 6costata, c. 0.25 cm longa, pedicello 0.1 cm longo.

SUMATRA. Westcoast: Agam, Paloepoeh (W. GROENEVELDT, Cult. in Hort. E. JACOBSON sub n. 688; „rachis greenish brown, bracts and pedicels dark isabella, ovary greenish isabella, sepals transparently red-brownish yellow, petals transparently greenish yellow suffused green-brownish at the base, lip terracotta, terminal lobe greenish yellow, column brownish yellow, anther yellowish green, pollinia yellow"). Bengkoeloe: Rimbo Pengadang. (Exp. E. JACOBSON, AJOEB n. 136, 11 June 1916; „flowers red and yellow").

This plant perhaps belongs to SCHLECHTER's section *Platystreptus*, but in my opinion the sections proposed by this author are partly not clearly enough defined.

Description from herbarium and materials preserved in alcohol.

Liparis bibullata J. J. S., n. sp.

Habitu L. gibbosae FINET. *Inflorescentia* densissime multiflora pedunculo ensiformi, dilute flavo-viridi praesertim marginibus aurantiaco-fusco-suffuso, c. 8-18 cm longo, medio c. 0.2 cm apice 0.3 cm lato, rachide compressa, quadrangula, c. 3-4 cm longa, cum bracteis c. 1.1-1-2 cm lata. *Bracteae* densae alternatim bifariae, patentes, initio imbricantes, lanceolatae, acutae, conduplicatae, acute carinatae, virides, praesertim marginibus tenuibus aurantiaco-fusco-suffusae, c. 0.75 cm longae. *Flores* singulatim expansi, dilutius lateritii, c. 0.6 cm lati, 1.15 cm longi, sepalis reflexis. *Sepalum dorsale* oblongum, obtusum, convexum, costa media dorso prominula, c. 0.7 cm longa, 0.25 cm lata. *Sepala lateralia* oblique oblongo-triangula, obtusa cum apiculo, convexa, costa media dorso carinata, c. 0.625 cm longa, 0.3 cm lata. *Petala* erecta, divergentia, oblique lanceolata, obtusa, apiculata, basi leviter unguiculato-angustata, convexa, costa media dorso prominente, c. 0.54 cm longa, 0.13 cm lata. *Labellum* basi gynostemio adnatum, gynostemio parallelum erectum, in c. $^1/_3$ supra basin abrupte recurvum, plica conspicue convexo-inflata utrinque inflexu, parte antica verticali, apicem versus angustata, triangula, obtusa cum apiculo conspicuo quadrangulo truncato plano, leviter convexa, callo conspicuo carnoso antice leviter concavo ad basin, callis 2 parvis collateralibus antepositis, inexplanatum c. 0.36 cm longum, 0.36-0.4 cm latum. *Gynostemium* erectum, breve, valde a dorso compressum, quinquangulare, ambitu late ovato-rhombeum, basi ovario multo latius, dorso conspicue obtuse carinatum, subtus in utraque stigmatis parte ala parva erecta triangula acuta donatum, infra stigma leviter longitudinaliter bicostulatum, dimidio inferiore lateritium, apice albescens, c. 0.275 cm longum, 0.25 cm latum, auriculis obtusis. *Anthera* transverse ovalis, apice truncata. *Pollinia* 4, oblongo-triangula, flavescentia. *Stigma* parvum, transverse ovale. *Ovarium* pedicellatum 6costatum, lateritium, c. 1.2 cm longum.

SUMATRA. Atjeh: Gajo Loeëus (General VAN DAALEN liv. pl. cult. in Hort. Bog. II M, f 200).

This plant I have earlier considered to be a variety of *L. gibbosa* FINET, and hence made no description of the vegetative parts. It is indeed very similar to FINET's species but the shape of the lip distinguishes it at once.

Description from cultivated specimens.

Liparis biglobulifera J.J.S., n. sp.

Rhizoma repens, elongatum, ramosum, geniculatum, teres, praesertim prope pseudobulbos radicans, c. 0.37-0.4 cm diam., vaginis tubulosis acuminatis acutis apice antice rotundato-excisis dorso superne carinatis

internodia superantibus. *Pseudobulbi* c. 5-6 cm dissiti, parvi, rhizomate continui, compressi, 1nodes, ovati, 1folii, c. 1.3 cm longi, 0.9 cm lati, vaginis lateraliter compressis acuminatis carinatis superne accrescentibus ad c. 5.5 cm longis initio ad basin. *Folium* erectum, lineare, breviter acute acuminatum, apiculatum, basi conduplicatum supra in utraque parte costae mediae supra canaliculatae subtus carinatae convexum, nervis 2 conspicuis utrinque, tenuiter coriaceum, supra nitidum, subtus opacum minuteque puncticulatum, cum vagina arcte conduplicata c. 24-27.5 cm longum, 1.3-1.2 cm latum. *Inflorescentia* e pseudobulbo juvenili, folio brevior, dense multiflora, pedunculo valde compresso, ensiformi, basin versus semi-ensiformi, apicem versus sensim dilatato ad c. 0.3 cm lato, c. 17 cm longo, rachide compressa, quadrangula, 6-7 cm superante, cum bracteis c. 0.8-1 cm lata. *Bracteae* alternatim bifariae, patentes, imbricantes, oblongae, conduplicatae, acutae, dorso valde acute carinatae, carina apice longe apiculatae, c. 0.7 cm longae. *Flores* intervallis 1-2 simul florentes, c. 1.4 cm longi. *Sepalum dorsale* reflexum, lanceolatum, apicem versus angustatum, obtusum, acute conico-apiculatum, convexum, 3nervium, bene 0.8 cm longum, 0.27 cm latum. *Sepala lateralia* reflexa revolutaque, sub labello abscondita, sese tegentia, oblique subovato-oblonga, apicem versus angustata, breviter acutata, acute apiculata, convexa, 3nervia, costa media dorso carinata, fere 0.9 cm longa, 0.36 cm lata. *Petala* supra basin incurva, erecta, marginibus valde revolutis tubulosa, linearia, breviter obtuse acutata, apice leviter irregulariter celluloso-marginata, 1nervia, c. 0.84 cm longa, 0.15 cm lata. *Labellum* erectum, patens, supra basin abrupte recurvum, plica valde convexo-inflata subglobosa medio plus minusve impressa utrinque in flexu, deinde dilatatum, marginibus apiceque recurvis valde convexum ambituque quadrangulum, medio leviter longitudinaliter late canaliculatum, callo transverso rotundato-trilobulato cum lobulo intermedio laterales superante ad basin, callo humiliore transverso sinu obtusangulo bilobulato anteposito, explanatum transverse ovali-obreniforme, apice 3lobulatum, lobulis exterioribus late rotundatis, lobulo intermedio multo minore paulo breviore semiorbiculari ad triangulo, margine basi excepta crenulatum minuteque papillosum, c. 0.83 cm longum, 1.4 cm latum, ad plicas 0.4 cm latum. *Gynostemium* leviter curvatum, a dorso compressum, latum, ovatum, $^1/_3$ parte apicali abrupte contractum, apice truncatum, basi ovario bene latius, dorso costa valida longitudinali obtusa instructum, subtus infra stigma longitudinaliter canaliculatum, in utraque stigmatis parte ala parva longitudinali triangula acuta instructum, absque anthera c. 0.375 cm longum, fere 0.3 cm latum, clinandrio transverse ovali leviter concavo cum costula longitudinali. *Rostellum* truncatum cum denticulo. *Stigma* transverse quadrangulum, margine inferiore dente erecto triangulo donatum. *Ovarium* pedicellatum triquetrum cum costula obtusa in lateribus, c. 1 cm longum.

SUMATRA. Westcoast: Goenoeng Singgalang, 1900 m (W. GROENEVELDT, cult. in Hort. E. JACOBSON sub n. 1322; „peduncle light green, bracts light green with transparent very light reddish brown edges, flowers wholly orange brown, anther green").

A very distinct plant. Though different in all its parts the nearest ally may be *L. compressa* LNDL.

Description from herbarium and material preserved in alcohol.

Liparis spiralipetala J. J. S., n. sp.

Pseudobulbi compressi, subelliptici, carnosi, c. 0.7-1 cm longi, omnino vaginis obtecti, inferne vaginis c. 3 sensim in folia vergentibus donati, radicibus tenuibus. *Folia* c. 3-4, lanceolata, breviter apiculato-acuminata, acuta, apice papilloso-ciliolata, basi angustata, supra in utraque caniculae parte convexa, dorso carinata, tenuiter carnosula, c. 3.25-6.5 cm longa, 0.8-0.95 cm lata, medianum maximum. *Inflorescentia* terminalis, folia multo superans, laxe pluri-multiflora, pedunculo compresso-ensiformi, alato, c. 2.5-4.5 cm longo, vaginulis c. 2 erecto-patentibus conduplicatis pedunculum fere amplectentibus basi dilatatis carinatis ad c. 1.2-2 cm longis donato, rachide trialata, c. 4.75-24 cm longa, internodiis c. 0.4-1 cm longis. *Bracteae* triangulae vel plus minusve quinquangulatae, longe acuminatae, acutae, angulato-concavae, dorso carinatae, 1nerviae, c. 0.37 cm longae, 0.25 cm latae. *Flores* ad c. 28, sensim florentes, angustissimi, c. 1.275 cm longi. *Sepalum dorsale* erectum, cum ovario angulum obtusum faciens, in utraque parte sulci longitudinalis valde convexum, marginibus valde revolutis, dorso carinatum, explanatum e basi ovata longe acuminatum, obtusum, 1nervium, c. 0.725 cm longum, 0.32 cm latum. *Sepala lateralia* deflexa, subparallela, in utraque parte sulci longitudinalis conspicui convexa, marginibus revolutis, dorso carinata, e basi subsemiovata fere a medio leviter acuminata, obtusa, 1nervia, c. 0.8 cm longa, 0.225 cm lata. *Petala* parva, reflexa, spiralia, oblique linearia, apicem versus sensim angustata, acuta, 1nervia, c. 0.3 cm longa, basi 0.04 cm lata. *Labellum* deorsum spectans, carnosum, ambitu ovato-triangulum, 3nervium, nervis exterioribus supra basin furcatis, callo conspicuo orbiculari convexo medio excavatione parva orbiculari annulo angusto elevato circumdato donato ad basin, explanatum bene 0.3 cm longum, medio fere abrupte triangulo-contractum, hypochylio transverse quadrangulo, leviter aequilateraliter trapeziformi, basi truncato cum angulis basilaribus apicalibusque rotundatis, cum epichylio angulos obtusos faciente, marginibus recurvis convexo, c. 0.16 cm longo, 0.23 cm lato, epichylio triangulo, acute acuminato, apice acute acuminato recurvoque, carinis 2 intramarginalibus marginibus parallelis conniventibus erectis basi in lobulum parvum erectum obtusum infra apicem labelli in subulam incurvam erectam falcatum exeuntibus, et medio costa 2 longitudinalibus parallelis rectis apicem labelli non attingentibus breviter in hypochylium decurrentibus donato, c. 0.15 cm longo et lato. *Gynostemium* sepalo dorsali parallelum, breve, carnosum, valde a dorso compressum, dorso obtusangule convexum, ovario conspicue latius, ambitu late ovatum, basin versus utrinque rotundato-alatum, ala conspicua porrecta introrsa rotundata exterius in dentem patentem reversum falcatum triangulum acutum producta in dimidio superiore in utraque stigmatis

parte, c. 0.18 cm longum et latum, clinandrio contracto, obliquo, transverse ovali, concavo. *Anthera* cucullata, ambitu quadrangula vel melius apice late obtusangulo quinquangularis, c. 0.07 cm lata. *Ovarium* c. 0.1 cm longum cum pedicello 0.3 cm longo sexangulatum.

SUMATRA. Palembang: Goenoeng Dempo, 1700 m (Exp. E. JACOBSON, AJOEB n. 495, 17 Augustus 1916; „flowers yellow").

Nearly related to the Javanese *L. angustiflora* J. J. S. of the section *Platystylus*, but with much shorter spiral petals and a broad lip contracted nearly in the middle.

Description from herbarium and materials preserved in alcohol.

Mediocalcar ternatense J. J. S., n. sp.

Rhizoma partim dependens, ramosum, vaginis tubulosis acutatis apiculatis apice interdum parce dentatis superne accrescentibus ad basin pseudobulborum approximatis ad c. 1.7-2.6 cm longis tectum, radicibus pilosis. *Pseudobulbi* c. 4.5-1.4 cm distantes, parte inferiore rhizomati adnati, apice libero cum rhizomate angulum acutum facientes, oblique conici, sicco toti c. 1.3-2.6 cm longi, parte libera 1.1-1.2 cm longa, 1folii. *Folium* lanceolatum, obtusum, angustius obtuse fere aequaliter vel paulo inaequaliter bilobulum cum mucrone lateraliter compresso incurvulo obtuso interposito, basi contractum conduplicatumque, dorso carinatum, sicco rigide coriaceum cum margine tenui, c. 5.5-12.5 cm longum, 1.1-2.65 cm latum. *Inflorescentiae* 2, in pseudobulbis immaturis, 1florae, pedunculo c. 2.5-3.2 cm longo. *Bractea* minuta, basi rachidem amplectens, brevius vel longius subulato-acuminata, c. 0.06-0.15 cm longa. *Flos* mediocris, sepalis in formam urceoli trifidi basi antice rotundato-inflati postice canalicula lata longitudinali duplicato-convexi fere 1.1 cm longi explanati 1.15 cm longi 1.4 cm ad apices 0.8 cm lati connatis. *Sepalum dorsale* totum c. 0.9 cm longum, parte libera triangula, obtusa, c. 0.43 cm longa, 0.3 cm lata. *Sepala lateralia* basi valde concava, oblique dilatata, 1.15 cm longa, parte libera oblique triangula, obtusa, c. 0.47 cm longa, 0.4 cm lata. *Petala* oblique linearia, acuta, parte superiore canaliculata, 3nervia, c. 0.85 cm longa, 0.14-0.15 cm lata. *Labellum* cum pede gynostemii angulum acutum faciens, gynostemium bene superans, unguiculatum, medio calcaratum, explanatum ambitu oblongo-quinquangulare, absque ungue rhombeum, c. 0.825 cm longum, 0.4 cm latum, ungue oblongo-pandurato, margine medio utrinque anguste incurvo, basi valde in auriculas 2 reflexas concavas rotundatas dilatato, c. 0.35 cm longo, ad auriculas 0.26 cm, medio 0.1 cm, apice 0.2 cm lato, calcari reverso, ungui adpresso et eum aequante, ample subconico, obtuso, c. 0.3 cm longo, lamina porrecta, triangula, acuminata, acuta, concava, marginibus incurva, c. 0.5 cm longa. *Gynostemium* subgracile, a dorso compressum, leviter curvulum, subtus concavum, c. 0.56 cm longum, clinandrio basi constricto transverso, apice truncato, alte excavato, auriculis leviter rotundatis, margine antico incurvis, minute crenulatis, tenuibus, concavis. *Anthera* cucullata, basi in clinandrium immersa, ambitu rotundato-

quadrangula, apice paulo producta tricrenataque, basi bilobula, lobulis latis contiguis retusis, bene 0.15 cm lata. *Pollinia* 8, lateraliter compressa, oblique ovali-obovata. *Stigma* transversum, aequilateraliter trapeziforme. *Pes gynostemii* cum ovario angulum acutum cum gynostemio angulum obtusum faciens, carnosus, in utraque parte canaliculae longitudinalis convexus, c. 0.2 cm longus. *Ovarium* pedicellatum c. 1-1.5 cm longum.

TERNATE. North Foramadiahi, c. 850 m, epiphytical in forest (V.M.A. BEGUIN n. 1539, 15 March 1921; „creeping, leaf thick, flower red, tip yellow").

Allied to *M. bicolor* J.J.S. from Ambon but differing in the geminate inflorescences, colour of the flowers, the spur equalling the claw, which moreover possesses very conspicuous auricles.

Description from herbarium.

Ceratostylis baliensis J. J. S., n. sp.

Rhizoma elongatum, dependens, ramosum, apicibus sursum curvis, teres, vaginis tubulosis imbricantibus reticulato-venosis inferioribus obtusis superioribus acutis superne accrescentibus ad c. 3-4.25 cm longis omnino obtectum, cum vaginis c. 0.4-0.5 cm diam., radicibus tenuibus pilosis. *Pseudobulbi* (caules) vaginis ultimis rhizomatis inclusi, c. 2-6 cm dissiti, c. 1.3-0.75 cm longi, 1folii. *Folium* lineari-lanceolatum, oblique vel aequaliter acuminatum, acutum, basi sensim angustatum conduplicatumque, costa media supra sulcata subtus carinata, sicco rigide papyraceum, c. 15.5-21 cm longum, 1.9-1.3 cm latum; vagina conduplicata, basi tubulosa, c. 2.1-2.3 cm longa. *Inflorescentiae* fasciculares, vaginulis satis conspicuis tubulosis membranaceis ad c. 1.1 cm longis ad basin, pedunculis tenuibus, puberulis, c. 2 cm longis, 1floris. *Bractea* reflexa, rhombeo-quinquangularis, acuta, apiculata, c. 0.4 cm longa. *Flos* mediocris, c. 0.86 cm longus, sepalis dorso puberulis. *Sepalum dorsale* oblongum, obtusum, subacutatum, 3nervium, nervis exterioribus supra basin furcatis, c. 0.64 cm longum, 0.3 cm latum. *Sepala lateralia* lacinia suborbiculari valde compresso-concava decurrentia, mentum reversum breve suborbiculare basi contractum apice bilobum puberulum c. 0.3 cm longum 0.36 cm latum formantia, oblique oblonga, obtusa, concava, 3nervia, nervis exterioribus basi furcatis c. 0.65 cm, tota 0.9 cm longa, 0.35 cm lata. *Petala* oblique oblonga, apice ovato-triangulo-contracta et convexo-incrassata, acuta, 3nervia, c. 0.525 cm longa, fere 0.2 cm lata. *Labellum* breviter unguiculatum, concavum, 3nervium, explanatum ambitu obovatum, apice late ovato-triangulo-producto subtrilobum, apice carnoso-incrassato convexo, obtusum, c. 0.77 cm longum, 0.475 cm latum, apice incrassato 0.17 cm longo 0.2 cm lato. *Gynostemium* supra visum ambitu quadrangulum, basi leviter contractum, bipartitum, c 0.28 cm longum, brachiis parallelis, late oblongis, obtusis, extus convexis, intus concavis, sinu conspicuo quinquangulari sejunctis, pede reverso, fere 0.3 cm longo. *Anthera* cucullata, obtusa, basi bilobula, lobulis latis retusis. *Pollinia* 8, breviter oblique obovato-pyriformia. *Ovarium* crassiusculum, teres, dense adpresse puberulum, fere 0.7 cm longum.

BALI: Goenoeng Batoekaoe, 1750 m (Exp. R. MAIER, SARIP n. 427, 16 October 1918; „flowers white").

A well characterized species of the section *Pleuranthemum* with very conspicuous rhizomes, long leaves, the petals contracted and thickened at the top, the thickened apex of the lip very short.

The material at hand was not in a very good state, so that especially the description of the lip wants some complement.

Description from herbarium.

Ceratostylis malintangensis J. J. S., n. sp.

Rhizoma valde elongatum, dependens, ramosum, teres, c. 80 cm longum, vaginis tubulosis imbricantibus acutis prominule reticulato-venosis deinde reticulum venarum relinquentibus omnino obtectum, internodiis brevibus basi apiceque valde obliquis c. 0.45-0.6 cm longis, radicibus tenuibus patentissime pilosis. *Pseudobulbi* c. 4.5-8 cm dissiti, cum rhizomate angulum acutum facientes, crassiusculi, truncati, 1folii, c. 1.5-2 cm longi. *Folium* lineare, apice marginibus breviter incurvis conduplicato-apiculato-acuminatum, acutum, basi conduplicatum, costa media dorso prominula, sicco rigide coriaceum, c. 12.5-20 cm longum, 0.75-0.9 cm latum; vagina petioliformis, compressa, truncata, basi rumpens, c. 2-2.2 cm longa. *Inflorescentiae* fasciculatae, nonnullis vaginulis membranaceis basi tubulosis acutis c. 0.8 cm longis ad basin, pedunculis tenuibus parce adpressae puberulis, c. 2.9 cm longis, 1floris. *Bractea* apice excepto adpressa, oblongo-triangula, breviter acute apiculato-acuminata, concava, membranacea, c. 0.4 cm longa. *Flos* mediocris, carnosulus, c. 1 cm longus, sepalis praesertim ad basin parce puberulis. *Sepalum dorsale* oblongum, apicem versus angustatum, obtusiusculum, concavum, 5nervium, c. 0.65 cm longum, 0.3 cm latum. *Sepala lateralia* lacinia rotundato-quadrangula valde saccato-concava ad partem inferiorem pedis gynostemii decurrentia, mentum breve cum ovario angulum acutum faciens oblique rotundatum leviter inflatum c. 0.23 cm longum formantia, marginibus anticis inferne contigua, oblique oblongo-triangula, apicem versus angustata, obtusa, 3nervia, nervis exterioribus supra basin ramosis, c. 0.73 cm, tota 0.9 cm longa, 0.45 cm lata. *Petala* anguste oblonga, apicem versus angustata, obtusa, concava, carnosula, marginibus apice excepto tenuia, 3nervia, c. 0.5-0.53 cm longa, 0.175-0.16 cm lata. *Labellum* cum pede gynostemii angulum subrectum faciens, sigmoideum, breviter supra basin obtusangule incurvum, ante medium subrectangule recurvum, gynostemium longe superans, unguiculatum, subtrilobum, concavum, 3nervium, costulis 2 longitudinalibus parallelis ad basin laminae, c. 0.75 cm, explanatum spathulatum 0.825 cm longum, ungue oblongo-quadrangulo, apice pedis gynostemii latiore, canaliculato, subtus sulcato, c. 0.3 cm longo, superne 0.175 cm lato, lamina ambitu ovata, inferne membranacea, superne incrassata, c. 5.25 cm longa, 0.46 cm lata, lobis lateralibus erectis leviter rotundatis latis ciliolatis, lobo intermedio porrecto conico obtuso utrinque convexo supra ad basin in costulam longi-

tudinalem producto. *Gynostemium* breve, crassum, bifidum, c. 0.28 cm longum, brachiis late parallelogrammiformibus, apice oblique truncatis obtusis extus convexis intus concavis, pede cum ovario angulum acutum cum gynostemio angulum obtusum faciente, lineari, $^2/_5$ partibus inferioribus canaliculato sepalis lateralibus adnato, parte superiore obtusangule incurvo, inexplanato c. 0.28 cm longo. *Anthera* cucullata, rotundato-quadrangula, basi breviter bilobula, fere 0.15 cm lata. *Ovarium* pedicellatum teres, 6sulcatum, adpresse puberulum, c. 0.85 cm longum.

SUMATRA. West coast: Goenoeng Melintang, 2000 m, epiphytical in coppice (H. A. B. BÜNNEMEIJER n. 4040, 29 July 1918, „flowers yellow with red stripes"); Goenoeng Sago, 1800-2080 m. (H. A. B. BÜNNEMEIJER, mixed with n. 4365, August 1918; sterile).

In habit similar to the preceding species but with much narrower leaves, in the details of the flowers, however, much resembling *C. Jacobsonii* J. J. S. The colour of the flowers, if correctly noted, is unique in the genus, as far as I know.

Description from herbarium.

Ceratostylis truncata J. J. S., n. sp.

Rhizoma elongatum, dependens, ramosum, laxe serpentinum, pars adest c. 22 cm longa, vaginis alternatim bifariis adpressis imbricantibus conduplicatis acutis superne accrescentibus ad c. 2.5 cm longis omnino obtectum. *Pseudobulbi* c. 2.5 cm dissiti, rhizomati adpressi, brevissimi, sectione transverse ovales, c. 0.4 cm longi, 1folii. *Folium* lanceolatum, sensim acute acuminatum, basi breviter in petiolum attenuatum, costa media supra canaliculata subtus carinata, carnosum, c. 9.5-10 cm longum, 1.85 cm latum, petiolo lateraliter compresso, supra sulcato, c. 0.8 cm longo, vagina brevissima tubulosa, c. 0.15 cm longa. *Inflorescentiae* ut videtur paucae, fasciculatae, vaginulis ad basin, pedunculis lanatis, c. 2 cm longis, 1floris. *Bractea* reflexa, oblongo-triangula, acute acuminata, membranacea, 0.28 cm longa. *Flos* mediocris, carnosulus, fere 1.1 cm longus, sepalis dorso puberulis. *Sepalum dorsale* oblongum apicem versus leviter angustatum, obtusum, leviter convexum, basi leviter concavum, margine angusto superne incurvum, 5nervium, c. 0.83 cm longum, 0.3 cm latum. *Sepala lateralia* lacinia valde saccato-inflata ad pedem gynostemii decurrentia, mentum reversum ovario adpressum inflatum a dorso compressum transverse ovali-orbiculare apice bilobum fere 0.3 cm longum 0.34 cm latum formantia, marginibus anticis inferne contigua, oblique oblonga, apicem recurvulum versus angustata, obtusa 5nervia, c. 0.8 cm, tota fere 1.1 cm longa, 0.35 cm lata. *Petala* oblique lanceolata, apicem recurvulum versus angustata, obtusa, concava, 3nervia, c. 0.725 cm longa, 0.225 cm lata. *Labellum* undatum, breviter unguiculatum, 3lobum, concavum, inter lobos laterales subtus rotundato-ventricosum, lobo intermedio excepto tenuiusculum, 3nervium, nervis exterioribus ramosis, costis 3 longitudinalibus parallelis puberulis, costa intermedia basin

versus evanescente, explanatum c. 0.86 cm, usque ad apicem loborum lateralium 0.6 cm longum, 0.5 cm latum, ungue incurvulo, concavo, quadrangulo, fere 0.2 cm longo, superne 0.17 cm lato, lamina e basi late cuneata ambitu ovato-triangula supra medium in lobum intermedium contracta, lobis lateralibus in utraque stigmatis parte erectis, tenuibus, late obtusangule triangulis, margine antico ciliolato sinu levi irregulariter obtusangulo subbilobulis, lobo intermedio porrecto, cum lobis lateralibus angulos obtusos faciente, carnoso, a dorso compresso, oblongo-triangulo, obtuso, supra subtusque convexo, celluloso, c. 0.3 cm longo, fere 0.2 cm lato. *Gynostemium* breve, crassum, apicem versus dilatatum, ultra medium bifidum, c. 0.27 cm longum, brachiis sinu quinquangulari sejunctis, latissimis, oblique quadrangulis, truncatis, extus convexis, intus concavis et costa (rostello) longitudinali obliqua bicameratis excavatione antice stigmaticis, pede reverso, cum ovario angulum acutum, cum gynostemio angulum obtusum faciente, anguste lineari, canaliculato, c. 0.2 cm longo. *Anthera* brachia subaequans, cucullata, ovata, rotundata, basi quadrilobulato-truncata, c. 0.17 cm lata. *Pollinia* 8, pyriformia ad oblique cuneato-triangula. *Ovarium* pedicellatum teres, 6sulcatum, lanatum, c. 0.7 cm longum. *Capsula* immatura obtuse trigona, alte 6sulcata, basi breviter contracta, lateralibus lanceolatis, c. 2.5 cm longis, 0.625 cm latis.

SUMATRA. West coast: Goenoeng Singgalang, 1700 m (E. JACOBSON, cult. sub n. 1215; „flowers white, sepals inside with the exception of the base faintly yellow, petals light lemon-yellow, base white, apical half of lip light lemon-yellow").

Another well characterized species of the section *Pleuranthemum*.

Description from materials preserved in alcohol.

Ceratostylis sarcostomatoides J. J. S., n. sp.

Planta parva. *Pseudobulbi* (caules) approximati, tenuiusculi, paucinodes, ad c. 0.8-0.9 cm longi, 1folii, vaginis alternatim bifariis imbricatis conduplicatis basi tubulosis acutis carinatis superne accrescentibus ad c. 1.5 cm longis ad basin, radicibus tenuibus, pilosis. *Folium* erectum, lanceolatum, leviter acuminatum et inaequaliter obtuse bidentatum, basi petiolato-contractum, costa media supra sulcata subtus minute carinatum, crasse carnosum, acute marginatum, totum c. 3-4.6 cm longum, 0 8-0.9 cm latum, petiolo lateraliter compresso supra sulcato c. 0.275 cm longo; vagina tubulosa, apice antice excisa, c. 0.275-0.325 cm longa. *Inflorescentiae* paucae, fasciculatae, vaginulis ad c. 0.7 cm longis ad basin, pedunculis puberulis c. 0.6 cm longis supra basin vaginula satis conspicua subulato-acuminata concava membranacea donatis 1floris. *Bractea* triangula, acute acuminata, concava, fere 0.2 cm longa. *Flos* parvus, c. 0.6 longus, sepalis dorso parcissime puberulis. *Sepalum dorsale* subellipticum, obtusum, breviter obtuse apiculatum, concavum, 3nervium, nervis exterioribus basi furcatis, c. 0.4 cm longum, 0.24 cm latum. *Sepala lateralia* lacinia brevi quadrangula concava ad pedem gynostemii decurrentia, mentum reversum cum ovario angulum acutum faciens breve latum obtu-

sum c. 0.15 cm longum formantia, oblique oblonga, apice angustata, obtusa, breviter crasse apiculata, concava, 3nervia, nervis exterioribus basi furcatis, c. 0.47 cm, margine antico 0.54 cm longa, basi 0.3 cm, supra basin 0.225 cm lata. *Petala* oblique rhombeo-lanceolata, acuminata, acuta, apice recurva, 1nervia, c. 0.4 cm longa, 0.14 cm lata. *Labellum* porrectum, medio obtusangule recurvulum, concavum, 3lobum, late spathulatum, 3nervium, costis 2 longitudinalibus usque ad $^2/_5$ partes supra basin basi excepta reverse pilosis superne incrassatis divergentibusque in basi lobi intermedii contracto-confluentibus, canalicula lata separatis, explanatum late rhombeum, c. 0.45 cm longum, 0.3 cm latum; lobi laterales patentes, margine incurvi, concavi, tenues, breves, late rotundati; lobus intermedius porrectus, crasse carnosus, supra visus reniformi-incrassatus, semiellipticus, obtusus, vix apiculatus, supra convexus, subtus convexus cum canalicula longitudinali, minute papillosus, c. 0.14 cm longus, 0.2 cm latus. *Gynostemium* breve latum, bipartitum, supra visum ambitu sexangulare, basi subtus longitudinaliter canaliculatum papillosumque, c. 0.175 cm longum, fere 0.2 cm latum, brachiis latis, obliquis, margine exteriore obtuse dilatatis, apice incurvis obtusis, supra subtusque excavatis, subtus stigmaticis et margine incurvis undulatisque, apice late truncatum, basi sensim in pedem angustatum, pede cum ovario angulum acutum faciente, incurvulo, apicem versus breviter longitudinaliter bicostulato, c. 0.1 cm longo. *Anthera* cucullata, convexa cum sulco longitudinali, orbiculari-quadrangula, breviter obtuse apiculata, basi utrinque lobulo instructa, marginibus thecarum subtus appendicibus filiformibus ornata, bene 0.1 cm lata. *Pollinia* 8, compressa, pyriformia, basi longe tenuissime producta, bene 0.05 cm longa. *Rostellum* suborbiculari-excisum. *Ovarium* pedicellatum teres, 6sulcatum, puberulum, fere 0.4 cm longum.

SUMATRA. West coast: Ophir districts, Taloe (W. GROENEVELDT, cult. in Hort. E. JACOBSON sub nrs. 384 and 400; „pedicel and ovary very light green, flowers white, petals with a narrow brownish purple border along the basal half"). In n. 384 the lip has according to Mr. JACOBSON two small light purple spots near the base.

A small species in some respect resembling a *Sarcostoma*. The keels of the lip are rather thick and provided with rather long, reverse hairs.

Description from a specimen preserved in alcohol.

Ceratostylis succulenta J. J. S., n. sp.

Rhizoma elongatum, dependens, ramosum, tenue, viride, c. 20 cm longum, 0.075 cm diam., vaginis adpressis imbricantibus longiusculis membranaceis fuscis nervosis omnino obtectum, radicibus tenuibus rhizomati adpressis. *Pseudobulbi* c. 0.7-1.3 cm dissiti, brevissimi, virides, vix 0.1 cm longi, 1folii. *Folium* lanceolatum, subsemiteres, apicem versus angustatum, oblique obtusum, cum apiculo, basi breviter angustatum, crasse carnosum, subtus convexum, supra planum cum sulco tenui longitudinali, nitidule viride, c. 1.75-2 cm longum, 0.425-0.45 cm latum. *Inflorescentiae* numerosae, fasciculatae,

vaginulis adpressis siccis membranaceis fuscis flores subaequantibus ad basin, pedunculis brevissimis, c. 0.1 cm longis, vaginulis amplectentibus ovato-triangulis acuminatis concavis membranaceis dilute fuscis nitidis hyalinis superne accrescentibus ad c. 0.325 cm longis omnino obtectis, 1floris. *Flos* parvus, c. 0.3 cm longus, 0.26 cm latus, albus, sepalis petalisque parallelis apice recurvis. *Sepalum dorsale* anguste oblongum, apicem versus angustatum, breviter acute conico-apiculatum, concavum, c. 0.25 cm longum, fere 0.1 cm latum. *Sepala lateralia* basi in laciniam brevem suborbicularem producta, mentum abbreviatum reversum saccatum obtusum c. 0.075 cm longum formantia, oblique oblongo-triangula, acuta, 3nervia, c. 0.275 cm, tota 0.325 cm longa, 0.125 cm lata. *Petala* lineari-lanceolata, acuta, concava, c. 0.225 cm longa, 0.05 cm lata. *Labellum* porrectum, leviter undatum, concavum, subtrilobum, explanatum c. 0.25 cm longum, ex ungue oblongo-quadrangulo concavo c. 0.05 cm longo in laminam ovato-triangulam basi utrinque rotundatam intus ad basin incrassationibus 2 longitudinalibus breviter latis instructam c. 0.2 cm longam 0.125 cm latam dimidio superiore leviter sed abrupte in lobum intermedium triangulum acutum carnosulum supra subtusque convexum contractam dilatatum. *Gynostemium* breve, bifidum, c. 0.075 cm longum, brachiis oblique truncatis extus convexis intus concavis. *Pollinia* 8, obovato-pyriformia, flavescentia. *Ovarium* obovoideo-fusiforme, 6sulcatum, nonnullis pilis longis instructum, pallide flavescens, c. 0.14 cm longum.

SUMATRA. West coast: Fort de Kock (H. W. L. COUPERUS, liv. pl. cult. in Hort. Bog.).

This plant I have earlier thought to be *C. pendula* HOOK.F. but now I am convinced that it, according to the description and figure, cannot be that species. It differs in the much more approximate pseudobulbs, smaller, very fleshy, semiterete leaves, narrower sepals, the blade of the lip contracted and thickened in the upper half.

Description from cultivated specimens.

Appendicula baliensis J. J. S., n. sp.

Caules simplices, raro leviter ramosi, compressi, sectione transversa elliptici, c. 37.5 cm longi, 0.26 cm lati, internodiis c. 0.35-0.65 cm longis. *Folia* patentia, basi subtorta, semiamplexicaulia, imbricantia, ovalia, obtusa, breviter rotundato-bilobula cum mucrone paulo breviore interposito, costa media supra sulcata subtus prominente, firmiter papyracea, dilute viridia, supra nitidula, subtus opaca, ad c. 2.1 cm longa, bene 1 cm lata, vaginae tubulosae, sectione transversa ellipticae, dorso carinatae, internodia aequantes, c. 0.3 cm latae. *Inflorescentiae* e nodis caulium foliatorum, foliis paulo brevi-ores, erecto-patentes, 1florae, pedunculo serpentino, tenui, c. 1-1.5 cm longo, pluribus vaginulis alternatim bifariis tubulosis filiformi-acuminatis prominenter nervosis tecto. *Bractea* patens, triangula, acute acuminata, concava, 3nervia, praesertim costa media dorso prominula, c. 0.15 cm longa. *Flos* parvulus, c. 0.54 cm latus, 0.6 cm longus, sepalis pallide sordide flavescentibus vix

purpureo-suffusis. *Sepalum dorsale* erectum, apice recurvulum, late ovatum, vix acuminatum, anguste obtusum, concavum, 3nervium, c. 0.28 cm longum, 0.24 cm latum. *Sepala lateralia* cum pede gynostemii mentum rectum cum ovario angulum subrectum faciens latum a dorso compressum rotundatum dorso costa longitudinali sulcis limitata instructum c. 0.33 cm longum formantia, marginibus anticis basi breviter saccato-connata, oblique triangula, subacuminata, acutiuscula, concava, 3nervia, costa media dorso prominente, c. 0.3 cm longa, margine antico 0.525 cm, basi 0.44 cm metientia. *Petala* leviter concava, apice recurvula, irregulariter quinquangulata, apice oblique triangulo-contracta et minute bidenticulata, basi lata, 1nervia, alba, c. 0.25 cm longa, 0.2 cm lata. *Labellum* parallelum pedi gynostemii erectum, $^2/_3$ partibus inferioribus valde concavum, apice recurvum valde convexum cum canalicula longitudinali, album, inferne basi excepta purpureo-marginatum, c. 0 37 cm longum, appendice hippocrepediformi concava ungue paulo breviore angustioreque retusa, cruribus antice intra marginem decurrentibus latis in laminà in incrassationes 2 irregulariter marginatas apicem versus evanescentes abientibus, explanatum ex ungue subquadrangulo fere 0.24 cm lato in laminam leviter 3lobam 0.24 cm longam 0.3 cm latam dilatatum, totum c. 0.45 cm longum, 3nervium, lobis lateralibus angulato-rotundatis irregulariter marginatis, lobo intermedio sinibus inconspicuis obtusangulis a lobis lateralibus sejuncto, aequilateraliter trapeziformi, apice truncato cum apiculo brevi obtuso, bene 0.1 cm longo, 0.24 cm lato. *Gynostemium* brevissimum, dorso convexum, dilute viride, c. 0.15 cm longum, apice conspicuo, semiovali rotundato sinibus altis ab auriculis sejuncto, auriculis triangulis margine antico purpureis. *Anthera* cucullata, cordata, abrupte anguste triangulo-acuminata, acuta, basi bilobula, connectivo gibboso, purpurea, c. 0.08 cm lata. *Pollinia* 6, 4 pyriformia, 2 oblique oblonga, extus concava, intus plus minusve concava, basi acuta, stipite brevi, valvis lanceolatis obtusis concavis, glandula parva. *Rostellum* porrectum, triangulum, apice breviter acute bidentatum, subtus convexum, supra concavum, purpureum. *Stigma* suborbiculare, dilute viride. *Pes gynostemii* cum ovario angulum rectum faciens, lineari-oblongus, apicem versus vix dilatatus, apice incurvus leviter concavus, c. 0.33 cm longus. *Ovarium* 6sulcatum, c. 0.25 cm longum; pedicellus 0.1 cm longus.

BALI (Exp. R. MAIER, SARIP liv. pl. cult. in Hort. Bog. sub n. 245).

A species of the section *Pododesme* with the habit of *A. undulata* BL., but with quite different flowers more resembling those of *A. pendula* BL. Description from a living specimen and flowers preserved in alcohol.

Eria gobiensis SCHLTR. Orch. D. N. Guinea (1912), 655.

var. **ternatensis** J. J. S., n var.

Pseudobulbi validi, paucinodes, pars adest 8 cm longa, 3folii. *Folia* lanceolata, apice angustata, oblique obtusa, basi sensim petiolato-angustata, costa media supra sulcata subtus carinata, margine in sicco recurvo, firmiter coriacea, tota c. 42 cm longa, petiolo 7.5-10 cm longo. *Inflorescentia* dense

multiflora, pedunculo stellato-lanato-pubescenti, c. 18 5 cm longo, basi nonnullis vaginulis brevibus imbricatis obtusis ad c. 0.9 cm longis, ceterum vaginulis sparsis minimis adpressis latis obtusis instructo, rachide leviter arcuata, stellato-tomentosa, c. 16 cm longa, cum floribus c. 2 cm diam. *Bracteae* parvae, patentissimae, triangulae, concavae, puberulae, sicco c. 0.1 cm longae. *Flores* parvuli, quaquaversi, patentissimi, c. 0.75 cm longi, fere 0.5 cm lati, sepalis dorso stellato-tomentosis. *Sepalum dorsale* erectum, incurvum, concavum, apice intus convexo-incrassatum, ovato-triangulum, apice angustatum, obtusum, basi latum, 3nervium, c. 0.375 cm longum, 0.225 cm latum. *Sepala lateralia* lacinia late oblique oblonga basi antice dilatata concava ad pedem gynostemii decurrentia, mentum conspicuum cum ovario angulum acutum faciens subrectum apice vix incurvulum cylindricum apice antice leviter ampliato subclavatum rotundato-obtusum c. 0.475 cm longum 0.2 cm latum formantia, patentissima, recurvula, convexa, oblique late triangula, falcatula, obtusa, 3nervia, c. 0.3 cm longa, basi 0.675 cm lata. *Petala* patentissima, oblique oblonga, leviter falcatula, obtusa, glabra, 3nervia, c. 0.325 cm longa, 0.15 cm lata. *Labellum* erectum, basi a pede gynostemii ventricoso-aversum, apice recurvulum, concavum, superne undulatum, nudum, stigma non attingens, explanatum oblongum, superne obsolete 3lobulum, lobulis lateralibus obsolete rotundatis sinibus valde inconspicuis a lobulo intermedio ambitu angulato-semiorbiculari obtuso repandulo c. 0.1 cm longo 0.175 cm lato sejunctis, totum c. 0.5 cm. longum, 0.225 cm latum. *Gynostemium* brevissimum, dorso convexum, c. 0.17 cm longum, clinandrio concavo, lobo dorsali porrecto quadrato, auriculis triangulis obtusis. *Anthera* cucullata, transversa, subreniformis, apice contracto obtuse 3lobulata, c. 0.15 cm lata. *Rostellum* triangulum, obtusum, stigmate multo angustius. *Stigma* transversum, margine recurvo patentissimo. *Pes gynostemii* cum ovario angulum acutum faciens, parte inferiore subrecta marginibus intus incrassata et costa longitudinali convexa usque ad stigma producta interposita, marginibus costaque in medio pedis confluentibus, parte superiore curvula angustioreque, totus c. 0.47 cm longus. *Ovarium* oblique elongato-obconicum, tomentosum, c. 0.55 cm longum; pedicellus tenuior, c. 0.35 cm longus.

TERNATE. Foramadiahi, c. 650 m, epiphytical in forest (V.M.A. BEGUIN n. 1428, 21 February 1921; „flowers greenish yellow").

This plant, according to the description, closely resembles *E. gobiensis* SCHLTR. from New-Guinea. As there are some discrepancies and I have seen no material of SCHLECHTER's species where as the material at hand is only poor I have kept it apart as a variety.

I am inclined to believe that self fertilization takes place in the bud.

Description from herbarium.

Dendrobium salhutuense J. J. S., n. sp.

Pusillum, caespitosum. *Rhizoma* brevissimum, ramosum, radicibus crassiusculis. *Pseudobulbi* aggregati, erecti, cauliformes, 1nodes, obtusi,

longitudinaliter sulcati, c. 0.7-0.8 cm longi, 1folii, nonnullis vaginulis tubulosis apiculatis membranaceis ad c. 0.6 cm longis initio ad basin. *Folium* erectum, maceratum crasse carnosum, oblongum, apiculatum, basi obtusa brevissime petiolato-contractum, supra in utraque parte costae mediae sulcatae convexum, subtus carinatum, c. 1.1-1.25 cm longum, 0.37 cm latum, petiolo c. 0.06 cm longo. *Inflorescentia* 1, pone folium, 1flora, spatha c. 0.2 cm longa ad basin, pedunculo abbreviato. *Flos* maceratus c. 0.8 cm longus. *Sepalum dorsale* subovato-ellipticum, obtusum, conico-apiculatum, convexum, 3nervium, bene 0.5 cm longum, 0.25 cm latum. *Sepala lateralia* cum pede gynostemii mentum calcariforme cum ovario angulum acutum faciens decurvulum obtusum subteres basi antice paululum ampliatum c. 0.27 cm longum facientia, porrecta, divergentia, subhorizontalia, oblique subovata, obtusa, conico-apiculata, convexa, 3nervia, c. 0.5 cm longa, 0.26-0.275 cm lata. *Petala* porrecta, parallela, oblique ovato-oblonga, apicem versus sensim angustata, subacuta, 3nervia, nervis exterioribus medium vix attingentibus, costa media dorso vix prominula, c. 0.47 cm longa, 0.16-0.175 cm lata. *Labellum* (pars libera) menti margini antico insertum, leviter curvulum, porrectum, angustissimum, lanceolatum, subtrilobum, carnosulum, inferne concavum, costis 2 longitudinalibus parallelis convexis superne incrassatis et in lobo medio in incrassationem longitudinalem convexam pauciverruculosam confluentibus, subtus convexum, 3nervium, basi leviter unguiculato-contractum, in $^3/_5$ partibus supra basin leviter in lobum intermedium oblongum acute acuminatum apice canaliculatum contractum, c. 0.475 cm, usque ad basin lobi intermedii c. 0.26 cm longum, ad lobos laterales 0.1 cm latum, ungue 0.14 cm longo 0.06 cm lato, lobo intermedio c. 0.2 cm longo fere 0.1 cm lato. *Gynostemium* breve, rectum, oblongo-quadrangulum, utroque latere costatum, c. 0.15 cm longum, clinandrio alto, excavato, aequilateraliter trapeziformi, filamento horizontali, triangulo-dentiformi, auriculis porrectis, parallelis, antheram bene superantibus, rectis, horizontalibus, margine interiore paulo dilatatis, suboblique ovatis, obtusis. *Anthera* cucullata, ambitu orbiculari-sexangulata, apice producta recurva contracta triangulis-bidentata convexa et leviter papillosa, c. 0.075 cm lata. *Pollinia* 4, angustissima, linearia, recta, supra convexa, interiora exterioribus paulo longiora, bene 0.05 cm longa. *Stigma* conspicuum, cuneato-quadrangulum. *Ovarium* pedicellatum valde curvatum, clavatum, praesertim superne valde triangulatum cum costa longitudinali in lateribus, ovarium c. 0.33 cm longum, pedicellus 0.7 cm longus.

AMBON. Goenoeng Salhoetoe, c. 650 m (C. J. BROOKS n. 18125, November 1923; „flower white").

The nearest ally of this species belonging to the section *Cadetia* is *D. leucanthum* J. J. S. from New-Guinea, from which it differs in the much shorter mentum, not crenulate petals, much narrower lip, a different anther.

Description from a dried specimen.

Dendrobium aduncilobum J. J. S., n. sp.

Pseudobulbi approximata, e basi fusiformi c. 1.8-2.2 cm longa sensim in collum longum apice paulo dilatatum attenuati, sicco longitudinaliter costati, virescenti-flavi, c. 9.5-15.5 cm longi, apice 0.3 cm lati, 1folii, vaginis ad c. 4.2 om longis ad basin. *Folium* lineari-lanceolatum, fere aequaliter obtuse triangulo-bidentatum, basi leviter contractum, costa media supra sulcata subtus prominente, sicco rigide coriaceum, c. 6.4-7.6 cm longum, 0.8-0.9 cm latum. *Inflorescentiae* fasciculares, pedunculis filiformibus, c. 1.3 cm longis, 1floris, nonnullis vaginulis ad basin. *Flos* conspicuus. *Sepalum dorsale* e basi oblongo-triangula concava c. 1-1.4 cm longa 0.375-0.425 cm lata longissime filiformi-productum, marginibus incurvis canaliculatum vel tubulosum, 5nervium, c. 3.25-4.75 cm longum. *Sepala lateralia* cum pede gynostemii mentum incurvulum cum ovario angulum acutum faciens dorso convexum fere 0.6 cm longum facientia, e basi late oblique ovato-triangula falcata concava c. 0.85-1.2 cm longa 0.7-0.75 cm lata longissime filiformi-producta, marginibus incurvis tubulosa, 5nervia, c. 3.4-4.5 cm longa. *Petala* e basi oblique lineari filiformi-producta, 3nervia, c. 3.25-4.25 cm longa, basi 0.16 cm lata. *Labellum* erectum, in $^1/_3$-$^2/_5$ partibus supra basin subrectangule recurvum, 3lobum, omnino papillosum, 5nervium, costis 2 validis parallelis in flexu altissimis deinde decrescentibus et medio fere evanescentibus, inexplanatum, c. 0.67-0.85 cm longum, lobi laterales erecti, falcato-incurvi, oblique anguste trianguli, sensim angustati, acuti, usque ad basin labelli c. 0.73-1 cm longi, margine antico bene 0.3-0.4 cm longi, lobus intermedius magnus, porrectus, apice recurvus, convexus, undulatus, late oblongus, obtusus vel superne leviter suborbiculari-dilatatus, apiculatus, pulvino longitudinali puberulo ante apicem costarum apicem non attingente, c. 0.55-0.75 cm longus, 0.3-0.375 cm latus. *Gynostemium* supra visum cuneatum, basi contractum, ad basin clinandrii paulo constrictum, absque anthera c. 0.3 cm longum, clinandrio excavato transverso margine postico truncato, auriculis parvis dentiformibus. *Anthera* cucullata, apice dilatata truncata et membranacea, c. 0.13 cm lata. *Pollinia* 4, oblonga, interiora quam exteriora angustiora, supra convexa, subtus plana, fere 0.1 cm longa. *Stigma* obovatum. *Pes gynostemii* cum ovario angulum acutum faciens, incurvulus, late linearis, truncatus, 3costatus, c. 0.575 cm longus. *Ovarium* pedicellatum longissimum, tenue, c. 3.9-4.2 cm longum.

TERNATE. North Foramadiahi, 1000 m, epiphytical in forest (V.M.A. BEGUIN n. 1460, 5 March 1921; „leaf shining, flower white, suffused with rosy, segments brownish yellow", n. 1476, 8 March 1921; „flower purple").

A very distinct species of the section *Diplocaulobium*. In the shape of the lip it recalls to mind more or less *D. auricolor* J. J. S., *D. centrale* J. J. S., and *D. regale* SCHLTR. but these species have broad sepals and petals, which are narrowly filiform in *D. aduncilobum*.

The flowers of n. 1476 were withered, hence the purple colour.

Description from herbarium.

Dendrobium subpandifolium J. J. S., n. sp.

Caules elongati, flexuosi, sectione transversa rhombei, sicco acutanguli cum lateribus excavatis, nitide flavi, ad c. 24 cm longi, dimidio inferiore foliati, parte superiore tenues et folia rudimentaria gerentes, internodiis c. 1.3-1.4 cm longis basi attenuatis ad nodos sicco ad 0.225 cm latis. *Folia* patentia, acinaciformia, lateraliter compressa, linearia, leviter falcata, acuta, basi oblique truncata, macerata carnoso-coriacea, margine superiore c. 2.3-4 cm, margine inferiore 2.5-4 2 cm. longa, 0.25-0.3 cm alta; vaginae tubulosae, internodia aequantes, apice oblique truncatae. *Flores* 1-2 e nodis caulium partis superioris, parvuli, pallide flavescentes, plus minusve purpureo-striati, macerati c. 0.9 cm longi. *Sepalum dorsale* triangulum, subquinquangulare, obtusum, convexum, 3nervium, c. 0.3 cm longum, 0.175 cm latum. *Sepala lateralia* lacinia conspicua anguste oblique oblonga falcata concava ad pedem gynostemii decurrentia, mentum magnum cum ovario angulum acutum faciens conicum valde incurvum obtusum c. 0.68 cm longum formantia, marginibus anticis omnino libera, parte antica recurva, oblique triangula, subquinquangularia, apice angustata, anguste obtusa, 5nervia, c. 0.34 cm longa, margine antico 0.9 cm metientia, parte antica fere 0.3 cm lata. *Petala* oblique lanceolata, obtusa, basi leviter contracta, c 0.33 cm longa, 0.08 cm lata. *Labellum* erectum, parallelum pedi gynostemii recurvulum, subsimplex, tenue, dimidio inferiore concavum superne marginibus recurvum, costis 3 longitudinalibus parallelis approximatis superne in fasciam tricostatam apicem non plane attingentem confluentibus, costa mediana basin versus evanescente, 5nervium, explanatum oblongo-obcordatum, basin versus leviter cuneato-angustatum, apice obsolete 3lobulum, lobis lateralibus valde inconspicuis leviter rotundatis, lobo medio paulo angustiore rotundato-bilobulo, c. 1 cm longum, superne 0.4 cm, basi 0.15 cm latum. *Gynostemium* brevissimum, absque anthera fere 0.1 cm longum, clinandrio conspicuo excavato margine postico triangulo obtuso, auriculis brevissimis latis rotundatis. *Anthera* cucullata, transverse quadrangula, apicem versus paulo dilatata, late truncata, basi bilobula, connectivo incrassato transverso truncato, c. 0.1 cm lata. *Pollinia* 4, in corpuscula 2 oblique obovata unita. *Pes gynostemii* cum ovario angulum acutum faciens, incurvus, linearis, obtusus, 3costatus (marginibus incrassatis cum costa interposita), inexplanatus c. 0.75 cm longus. *Ovarium* 6sulcatum, c. 0.13 cm longum; pedicellus tenuior, 0.43 cm longus.

BANGKA (Cult. in Hort. Bog.).

Apparently near *D. acerosum* LNDL. but LINDLEY describes the leaves of his species as being terete. According to RIDLEY the leaves are compressed, but in the plant he had in view the flowers measure only $^1/_4$ inch in length.

Description from herbarium.

Dendrobium cuneatipetalum J J. S., n. sp.

Rhizoma cauliforme valde ramosum, tenue, vaginis tectum, radicibus tenuibus. *Caules* c. 0,2-0.6 cm dissiti, simplices, subrecti, compressi, basi

tenues, ceterum dilatati, rigidi, nitidi, dilute virides, foliati, ad c. 15 cm longi, internodiis obliquis, apicem versus dilatatis, basi c. 0.3 cm apice 0.53 cm latis. *Folia* alternatim bifaria, articulata, approximata, equitantia, lateraliter compressa, erecto-patentia, imbricantia, inferiora parva triangula, superiora lanceolato-triangula, recta, acuta, carnosa, supra magnam partem vaginato-fissa et membranacee anguste pallide viridi-marginata, ceterum opaca glaucescenti-viridia, basi obliqua, supra ad c. 2.6-3.25 cm, dorso 3.1-3.75 cm longa, 0.65-0.8 cm lata, apice libero ad c. 1.5 cm longo; vagina compressa, inferne tubulosa, apice conduplicata oblique exciso-truncata. *Inflorescentiae* axillares et terminales, nutantes. *Flores* carnosi, c. 0.825 cm longi, 0.74 cm lati, subsemipellucidi, dilute flavo-virides, sepalis apice leviter sordide purpurea striato-suffusis. *Sepalum dorsale* basi horizontale et leviter concavum, medio recurvum et superne convexum, oblongum, obtusum, breviter apiculatum, 3nervium, c. 0.5 cm longum, 0.25 cm latum. *Sepala lateralia* cum pede gynostemii mentum conspicuum cum ovario angulum acutum faciens incurvum late conicum obtusum retusum dorso canalicula longitudinali instructum c. 0.4 cm longum formantia, antice omnino libera divergentia, apice recurva, basi concava, superne convexa, oblique triangula, obtusa, minute apiculata, basi rotundata, 3nervia, c. 0.45 cm longa, margine antico et basi 0.6 cm metientia. *Petala* parva, porrecta, divergentia, subundulata, e basi cuneata oblique oblonga, apice paulo contracta late obtusa vix erosula et breviter apiculata, 1nervia, apice sordide purpurea, c. 0.36 cm longa, 0.17 cm lata. *Labellum* erectum, infra medium obtusangule recurvum, subsimplex, 3nervium, oblongum, subtus convexo-carnoso-incrassatum, nitidum praesertim parte mediana, atrofusco-purpureum, antice pallide marginatum, explanatum c. 0.6 cm longum, hypochylio intus subplano cum margine angusto tenui papilloso incurvulo, quadrangulo, basin versus angustato, truncato, c. 0.34 cm longo, basi 0.175 cm apice 0.3 cm lato, epichylio (lobo medio) transverse rotundato-quadrangulo, apice acutangule retuso, margine tenui valde recurvo convexo cum sulco longitudinali et excavatione ad basin omnino transverse verrucoso-ruguloso, margine crenulato-erosulo papilloso, subtus infra sinum callo brevi conico lateraliter compresso incrassationem terminante instructo, c. 0.26 cm longo, 0.34 cm lato. *Gynostemium* breve, curvulum, dorso convexum, minute papillosum, c. 0.2 cm longum, clinandrio contracto, transverse ovali, concavo, filamento subulato, auriculis filamento multo brevioribus, rotundatis, denticulatis, concavis. *Anthera* cucullata, ambitu quinquangularis, subtrilobula, apice lata anguste membranaceo-marginata breviter late retusa, c. 0.13 cm lata. *Pollinia* 4, lateraliter compressa, exteriora extus convexa, interiora tenuiora, c. 0.06 cm longa. *Stigma* breviter obverse triangula. *Ovarium* breviter valde oblique obconicum, facie inferiore planum, c. 0.24 cm longum.

SUMATRA. Bengkoeloe: Kroei (A. BOUMAN-HOUTMAN, liv. pl. cult. in Hort. Bog. sub n. 73).

Amongst the species of the section *Oxystophyllum* this is well characterized by the colour of the flowers, the cuneate petals and the very rugose erose epichyl of the lip.

Description from a living plant and materials preserved in alcohol.

Dendrobium violascens J. J. S., n. sp.

Rhizoma breve, radicibus crassis. *Caules* aproximati, clavati, basi paulo incrassati, c. 18-27 cm longi, apice 2-3folii, vaginis tubulosis superne accrescentibus tectum, internodiis superioribus ultimis exceptis maximis ad c. 6.5-8.25 cm longis. *Folia* patentia, ovato-lanceolata, apicem versus angustata, anguste obtusa (vel 2dentata?), basi breviter contracta, nervis c. 7 majoribus sicco supra subtusque prominentibus minoribus intermixtis, sicco rigide coriacea, c. 9.5-11 cm longa, 1.9-3 cm lata. *Inflorescentiae* versus apicem caulium, breviusculae, laxius pluriflorae, pedunculo c. 6.5-10 cm longo vaginulis c. 4 brevibus tubulosis donato rachide c. 3 cm longo. *Bracteae* triangulae, obtusae, concavae, 5nerviae, ad c. 0.5 cm longae, bene 0.2 cm latae. *Flores* c. 8, satis approximati, parvuli, macerati c. 2.45 cm lati, 1.7 cm longi. *Sepalum dorsale* apice valde recurvum, lanceolato-triangulum, acutum, apiculatum, 5nervium, c. 1.55 cm longum, 0.46 cm latum. *Sepala lateralia* lacinia brevi triangula ad pedem gynostemii decurrentia, mentum breve reversum obtusum, c. 0.47 cm longum formantia, marginibus anticis libera, divergentia, apice valde recurva canaliculataque, basi concava, oblique lanceolata-triangula, leviter sigmoidea, acuta, apiculata, 5nervia, c. 1.4 cm, margine antico 1.8 cm longa, basi 0.725 cm, supra basin 0.5 cm lata. *Petala* divergentia, oblique rhombeo-lanceolata, subspathulata, tenuiter subulato-acuminata, 3nervia, c. 1.7 cm longa, 0.43 cm, basi 0.175 cm lata. *Labellum* apici pedis gynostemii insertum, eo non adnatum, 3lobum, fascia incrassata longitudinali satis lata apicem versus paulo angustata 3costataque apice elevata 4crenato-truncata et sectione transversa subTformi in dimidio inferiore, subexplanatum spathulato-rhombeum, 5nervium, c. 1.75 cm longum; lobi laterales oblique rotundati, sinibus obtusangulis plicisque conspicuis a lobo intermedio sejuncti; lobus intermedius multo major, porrectus, quinquangulari-semiellipticus, breviter acute acuminatus, repandulus, c. 0.7 cm longus, 0.625 cm latus. *Gynostemium* breve, a dorso compressum, recurvulum, dorso excavatum, absque anthera c. 0.2 cm longum, clinandrio excavato transverso, filamento subulato, auriculis porrectis parallelis oblique triangulis falcato-recurvis obtusis. *Anthera* cucullata, obverse aquilateraliter trapeziformis, apice lata, basi (dorso) bilobula, antice plana, c. 0.16 cm lata. *Pollinia* 4, in corpuscula 2 cohaerentia oblique obovata supra convexa subtus recta unita, c. 0.1 cm longa. *Stigma* conspicuum, longitudinale, ovale, apice truncatum. *Pes gynostemii* reversus, cum ovario angulum acutum faciens, apice incurvus, rectangule oblongus, truncatus, 3costatus, costa intermedia apice sulco longitudinali duplicata, c. 0.4 cm longus. *Ovarium* obconicum, 6sulcatum, c. 0.45 cm longum; pedicellus tenuis, c. 1.8 cm longus.

TERNATE. North Foramadiahi, c. 1000 m, epiphytical in forest, scattered (V.M.A. BEGUIN n. 1464, 6 March 1921; „stems greenish brown, flowers very light violet-white").

A rather inconspicuous species of the section *Latouria* of which I do not know a near ally.

Description from herbarium.

Dendrobium mellicolor J. J. S., n. sp.

Caules elongati, flexuosi, subteretes, basin versus attenuati, canaliculati, glabri, nitidi, c. 40 cm longi, ad c. 0.5 cm diam., internodiis ad c. 2.1 cm longis *Folia* patentia, lineari-lanceolata, apicem versus sensim angustata, valde oblique anguste acuta, basi leviter brevissime contracta, costa media supra sulcata praesertim versus apicem angulato-canaliculata, margine praesertim apice minutissime crenulata, incrassatione oblique ovato-triangula in costam apicem attingentem producta dorso supra basin, subtus densius supra sparse pilis malpighiaceis crassiusculis transversis adpressis nigris vestita, supra glabrescentia, rigide coriacea, c. 6.2-7 cm longa, 0.775-1 cm lata; vaginae tubulosae, internodia vix superantes, apice truncatae, pilis malpighiaceis adpressis transversis nigris dense vestitae. *Inflorescentiae* e nodis in flexibus caulium, vaginas 2 perforantes, brevissimae, c. 6-7florae, pedunculo abbreviato, c. 0.2 cm longo, nonnullis vaginulis obtusis grosse nigro-pilosis donato, rachide angulata, glabra, c. 0.5-0.6 cm longa. *Bracteae* patentes, oblongo-triangulae, obtusae, valde concavae, marginibus incurvis, grosse nigro-pilosae, 1nerviae, c. 0.44 cm longae. *Flores* patentes, quaquaversi, c. 1.1-1.2 cm longi, 1.2-1.25 cm lati, sepalis divergentibus apice recurvulis carnosulis. *Sepalum dorsale* oblongum, apice angustatum, obtusum, breviter apiculatum, 3nervium, c. 0.78 cm longum, 0.3 cm latum. *Sepala lateralia* lacinia oblique triangula concava ad pedem gynostemii decurrentia, mentum calcariforme reversum cum ovario angulum acutum faciens vix incurvulum antice visum conicum a latere visum oblongum obtusum c. 0.4 cm longum formantia, divergentia, angulum acutum facientia, marginibus anticis fere ad basin libera, oblique oblonga, apice angustata, obtusa, dorso apiculata, 4nervia, c. 0.85 cm longa, margine antico c. 1.25 cm, basi bene 0.6 cm metientia, supra basin 0.35 cm lata. *Petala* porrecta, oblique subspathulato-linearia, apicem versus sensim paululum dilatata, breviter oblique acuta, 1nervia, intus ad basin papillosa, c. 0.76 cm longa, bene 0.1 cm lata. *Labellum* basi pedi gynostemii breviter adnatum, pedi gynostemioque adpressum et bene longius, concavum, superne 3lobum, carnosum, subtus convexum cum sulco longitudinali, costis 3 parallelis rectis laevibus superne verrucosis ultra medium lobi intermedii decrescentibus, costa humiliore (nervo laterali) verrucosa basin non attingente paucas venas verruculosas emittente utrinque, explanatum e basi cuneata oblongum, c. 1.25 cm, usque ad apicem loborum lateralium 1 cm longum, 0.5 cm latum, lobi laterales erecti, basi latissimi, anguste parallelogrammiformes, apice libero porrecto, brevi, triangulo obtuso

bene 0.1 cm longo; lobus intermedius porrectus, suborbicularis, valde undulatus, carnosus, c. 0.3 cm longus, 0.375 cm latus. *Gynostemium* longiusculum, rectum, a dorso compressum, semiteres, c. 0.375 cm longum, clinandrio alte excavato transverso, filamento brevi, subulato-dentiformi, auriculis oblique triangulis acute acuminatis concavis. *Anthera* cucullata, quadrangula, apice paulo contracto-producta truncata et papilloso-ciliolata, dorso bilobula, minute papillosa, c. 0.15 cm lata. *Pollinia* 4, angusta, in corpuscula 2 oblique oblonga supra convexa subtus subplana unita. Stigma quinquangulare. *Pes gynostemii* gynostemio fere continuus, reversus, cum ovario angulum acutum faciens, incurvulus, late linearis, obtusus, sulco longitudinali apice in excavationem dilatata donatus, c. 0.5 cm longus. *Ovarium* 6sulcatum, c. 0.54 cm longum; pedicellus tenuior, c. 0.7 cm longus.

SUMATRA. West coast: Sòlok, Loeboek Soelasih (W. GROENEVELDT, cult. in Hort. E. JACOBSON sub n. 1743; „stems dark brown hairy, leaves green, ovary and pedicel greenish sepia, sepals and petals light yellowish brown somewhat greenish at the tip, lip light yellowish brown, column transparently white with a brownish hue").

Allied to *D. pinifolium* RIDL. and *D. squarrosum* J. J. S. of the *Oxygenianthe* section, but in the shape of the much more resembling *D. corrugatilobum* J. J. S. which has glabrous leaves and sheaths.

Description from materials preserved in alcohol.

Dendrobium igneoniveum J. J. S., n. sp.

Caulis elongati, flexuosi, teretes, longitudinaliter sulcati, 40 cm superantes, bene 0.6 cm diam., internodiis ad c. 3.3 cm longis. *Folia* sessilia, oblonga, vix ovata, oblique obtusa, breviter bilobula, costa media supra sulcata subtus vix prominula, utrinque nigro-hirsuta, pilis plerumque simplicibus, coriacea, c. 5.3-6 cm longa, 2.2-2.3 cm lata, inferiora minora; vaginae tubulosae, internodia aequantes, apice truncatae anticeque excisae, dense patenter fusco-nigro-hirsutae, absque pilis ad c. 0.7 cm diam. *Inflorescentiae* e nodis caulium, brevissimae, subsessiles, cauli adpressae, c. 4florae, pedunculo cum rachide c. 1.25 cm longo, sparse adpresse nigro-piloso. *Bracteae* subulato-triangulae, subulato-apiculatae, concavae, extus omnino intus secundum marginem subadpresse grosse nigro-pilosae, 3nerviae, c. 1 cm longae, basi 0.3 cm latae. *Flores* conspicui c. 5 cm longi. *Sepalum dorsale* oblongo-ovatum, obtusum, crasse obtuse apiculatum, 7nervium, c. 2.6 cm longum, 1.13 cm latum. *Sepala lateralia* lacinia elongata angustissima basi margine antico rotundato-dilatata ad pedem gynostemii decurrentia, mentum reversum cum ovario angulum acutum faciens tenuiter calcariforme lineare leviter a latere compressum subrectum obsolete recurvulum obtusum basi antice conspicue valde rotundato-umbonatum c. 2.35 cm longum medio c. 0.175 cm ad umbonem 1 cm altum formantia, marginibus anticis menti omnino connata, parte antica oblique oblongo-triangula, apice recurva acutata, obtuse apiculata, dorso carinata, 7nervia c. 2.6 cm, usque ad apicem menti 5 cm longa, 1.175

cm lata. *Petala* late oblique ovalia, obtusissima, undulata, 3nervia, nervis exterioribus bene ramosis, reticulato-venosa, bene 3 cm longa, 2.1 cm lata. *Labellum* ungue elongato angusto pedi gynostemii adnatum; lamina recurva, 3loba, callis 2 longitudinalibus duplicatis in flexu, costa brevi alta rotundata glabra antice in costam multo humiliorem convexam verruculosam abiente inter lobos laterales, subtus canaliculata, explanata obverse reniformis, c. 2.8 cm, usque ad apicem loborum lateralium 1.4 cm longa, ad lobos laterales 1.9 cm lata; lobi laterales in utraque gynostemii parte erecti, porrecti, concavi cum plica transversa introrsa convexa extus concava, oblique subovati, superne contracti et intus minute transverse rugulosi, truncati, plusminusve retusi, c. 0.55 cm longi, 0.5 cm lati, lobus intermedius maximus, concavus, transverse ovali-obreniformis, leviter undulatus, basi verruculosus, c. 1.9 cm longus, 2.85 cm latus. *Gynostemium* oblique conicum, apice contractum, bene 0.6 cm longum, clinandrio alte excavato, subsemilunato, filamento longe subulato, auriculis oblique triangulis obtusis. *Anthera* cucullata, antice plana, rotundato-quadrangula, apice truncata cum margine angusto abrupte incurvo, bene 0.3 cm lata. *Stigma* alte ecxavatum, angulato-semiovale, margine inferiore alte bilobum. *Pes gynostemii* reversus, cum ovario angulum acutum faciens, elongatus, subrectus, anguste linearis, canaliculatus, obtusus, basi antice valde lateraliter compresso-infundibuliformi-ampliatus, c. 2.5 cm longus. *Ovarium* obconicum, 6sulcatum, c. 0.8 cm longum, pedicellus cum ovario angulum obtusum faciens, c. 4.1 cm longus.

SUMATRA. Tapiannoeli: Sipirok (A. V. THEUNISSEN, cult. in Hort. E. JACOBSON sub n. 1859; „leaves dark green, peduncle light green, bracts light brown, pedicel and ovary white light green at base, flowers pure white, side lobes of lip orange red, midlobe with an orange red blotch at the base, mouth of spur brownish yellow, anther white with a faintly greenish tint faintly rosy at the anterior margin").

Apparently a very beautiful species allied to *D. radians* RCHB. F., *D. ovipostoriferum* J. J. S. etc., but with more distinct side-lobes and a very broad obreniform midlobe.

Description from materials preserved in alcohol.

Bulbophyllum ascochiloides J. J. S., n. sp.

Pusillum. *Rhizoma* breve, radicans. *Pseudobulbi* approximati, cum rhizomate angulum acutum facientes, ovoideo-conici, obtusi, antice longitudinaliter late canaliculati, c. 0.8-0.9 cm longi, 0.4-0.5 cm diam. *Folium* erectum, oblanceolatum, obtusum, basin versus sensim angustatum conduplicatumque, costa media supra sulcata, tenuiuscule carnoso-coriaceum, c. 2.9-3.5 cm longum, 1-1.1 cm latum. *Inflorescentiae* e basi pseudobulborum, 1florae, pedunculo tereti, dense longiuscule papilloso, c. 0.95 cm longo, basi nonnullis vaginulis tubulosis donato. *Bractea* tubulosa, oblique truncata, acuta, carinata, celluloso-papillosa, c. 0.45 cm longa. *Flos* mediocris, c. 1.2 cm longus, sepalis 3nerviis nervis exterioribus ramosis, omnibus dorso pro-

minentibus et dorso marginibusque celluloso-papillosis. *Sepalum dorsale* lineari-lanceolatum (apice deficiente), pars adest fere 1.1 cm longa, 0.325 cm lata, *Sepala lateralia* marginibus sepalum dorsale tegentia, oblique lineari-lanceolata, subacuta, c. 1.35 cm longa, bene 0.3 cm lata. *Petala* minima, porrecta, parallela, verticalia, gynostemio adpressa, oblonga, supra basin paululum constricta, rotundata, 1nervia, c. 0.175 cm longa, 0.08 cm lata. *Labellum* minimum, mobile, carnosum, latum, medio fere valde recurvum, basi in unguem brevissimum concavum subtus convexum angustatum, parte inferiore marginibus erectis valde canaliculatum, parte antice paulum dilatata late rotundatum subirregulariter marginatum cum margine angusto incurvo concavo, supra basin costis 2 longitudinalibus in parte antica convexo-confluentibus, subtus longitudinaliter late alteque canaliculatum, glabrum, c. 0.17 cm longum, 0.13 cm latum. *Gynostemium* brevissimum, ovario multo tenuius, c. 0.15 cm longum, apice quadrangulo, auriculis porrectis, parallelis, antheram longe superantibus, filiformi-subulatis, subrectis. *Anthera* cucullata, lobulis 2 verticalibus ad basin connectivo in gibbum conspicuum porrectum crassum obtusum verruculoso-papillosum producto, c. 0.05 cm longa. *Stigma* ad basin gynostemii, margine inferiore elevatulo. *Pes gynostemii* cum ovario angulum obtusum faciens, incurvulus, oblongus, truncatus, canaliculatus, apice a sepalis lateralibus liber, basi callo parvo conico instructus, c. 0.13 cm longus. *Ovarium* obconicum, obtuse trigonum, praesertim in angulis verruculoso-papillosum, c. 0.225 cm longum; pedicellus crassiusculus, teres, papillosus, c. 1.275 cm longus.

SUMATRA. Westcoast: Goenoeng Singgalang, 1600 m (E. JACOBSON cult. sub n. 1555; „pseudobulbs and leaves green, peduncle greenish yellow, bract very light yellow, pedicel light yellow, ovary yellowish green, sepals transparently light orange yellow with 7 longitudinal yellowish orange nerves, petals hyaline very light yellowish orange with yellowish orange longitudinal nerves, lip dark brownish purple, column very light yellowish orange").

One of these numerous little species which are at present best placed in the section *Micromonanthe*. It is well characterized by its papillate peduncle and ovary, suggesting a species of the section *Ascochilus* of *Sarcochilus*.

Description from materials preserved in alcohol.

Bulbophyllum chlorascens J.J.S., n. sp.

Pusillum. *Rhizoma* repens, tenue, pseudobulbos perforans, inter pseudobulbos radicans. *Pseudobulbi* decumbentes, approximati, moniliformes, rhizomati adnati, ovales, carnosi, c. 0.3-0.325 cm longi, 0.2 cm lati. *Folium* spathulato-lanceolatum, obtusum, basi sensim subacuminatum, costa media supra sulcata, c. 0.95-1.15 cm longum, 0.275-0.3 cm latum. *Inflorescentiae* inter pseudobulbos, folia longe superantes, 1florae, pedunculo filiformi, c. 2 cm longo. *Bractea* tubulosa, 0.13 cm longa. *Flos* parvus, c. 0.7 cm longus. *Sepalum*

dorsale ovatum, apicem versus angustatum, breviter acutatum, acutum, concavum, 3nervium, c. 0.33 cm longum, 0.27 cm latum. *Sepala lateralia* intermedio bene longiora, oblique oblongo-triangula, leviter falcatula, acuta, concava, 4nervia, c. 0.775 mm longa, basi fere 0.3 cm lata. *Petala* minima, porrecta, parallela, gynostemio adpressa, oblique lanceolata, falcatule sursum curvula, obtusa, apiculata, 1nervia. *Labellum* mobile, gynostemium longe superans, simplex, $^2/_5$ partibus inferioribus marginibus erectis canaliculatum, $^3/_5$ partibus superioribus marginibus recurvis convexum, recurvulum, bene $^1/_4$ parte inferiore integerrimum, ceterum apice excepto minute serrulatum, lanceolatum, explanatum, rhombeum, in bene $^1/_4$ parte supra basin latissimum, apicem versus sensim angustatum, obtusum, 3nervium, c. 0.53 cm longum, 0.2 cm latum. *Gynostemium* subgracile, subrecurvulum, c. 0.17 cm longum, auriculis conspicuis, antheram paulo superantibus, porrectis, leviter divergentibus, verticalibus, oblongis, margine superiore erosulo-serrulatis, apice bidentatis. *Anthera* cucullata, supra visa triangula, apice in lobulum triangulum obtusum subplanum producta, connectivo valde convexo-incrassato, c. 0.06 cm longa *Pollinia* extus convexa, intus plana, antice contracta, c. 0.05 cm longa. *Pes gynostemii* cum ovario angulum subrectum faciens, incurvulus, linearis, truncatus, fere 0.2 cm longus. *Ovarium* breve, obconicum, 6sulcatum, c. 0.06 cm longum; pedicellus tenuior, filiformis, c. 1 cm longus, 0.1 cm supra basin articulatus.

SUMATRA. West coast: Loeboek Sikaping (A. V. THEUNISSEN, cult. in Hort. E. JACOBSON sub n. 1799: „pseudobulbs and leaves green, peduncle and pedicel very light green, ovary light green, sepals and petals transparently very light green, lip light green, the side lobes somewhat yellowish green, arms light green").

A very small species of the section *Micromonanthe*, resembling in habit *Monilibulbum* but with different flowers. In many respects e. g. the colour of the flowers and the shape of the lip and column it is very similar to *B. papuliferum* SCHLTR. from Sumatra but in that species the pseudobulbs are remote and not moniliform, the dorsal sepal equals the lateral ones and the petals show another shape.

Description from a specimen preserved in alcohol.

Bulbophyllum batukauense J. J. S., n. sp.

Pusillum. *Rhizoma* repens, ramosum, teres, radicans, initio vaginis tubulosis apiculatis donatum. *Pseudobulbi* c. 0.15 cm distantes, decumbentes, rhizomati adnati, adscendentes, et parte superiore antice longitudinaliter canaliculati, ovales ad oblongi, obtusi, carnosi, c. 0.46-0.56 cm longi, 0.34-0.275 cm lati. *Folium* erectum, oblongo-ellipticum, obtusum, basi contractum, c. 1.25 cm longum, 0.4 cm latum. *Inflorescentia* in rhizomatis ramulo brevi radicante, erecta, folium bene superans, 1flora, pedunculo filiformi, c. 1.45 cm longo, basi c. 3 vaginulis tubulosis donato. *Bractea* oblique infundibuliformi-tubulosa, oblique truncata, c. 0.2 cm longa. *Flos* parvus, c. 0.5 cm

latus. *Sepalum dorsale* porrectum, apice recurvulum, oblongo-ellipticum, vix acuminatum, acutum, praesertim basi concavum, 3nervium, nervis exterioribus basi furcatis, omnibus dorso praesertim basi valde prominentibus, c. 0.425 cm longum, 0.175 cm latum. *Sepala lateralia* porrecta, divergentia, revoluta, oblique oblongo-ovalia, apiculata, convexa, nervatura sepali dorsalis, c. 0.47 cm longa, 0.225 cm lata. *Petala* multo minora, porrecta, parallela, oblique oblonga, superne paululum dilatata, apice angustata, obtusa, 3nervia, nervis exterioribus basin saepe non attingentibus, c. 0.2 cm longa, 0.75 cm lata. *Labellum* mobile ante medium obtusangule recurvum, basi marginibus erectis canaliculatum, callo basi truncato antice in costulam brevem producto bene supra basin in canalicula, superne marginibus in c. $^1/_3$ supra basin manifeste recurvis valde convexum, obtusum, costis 2 longitudinalibus a flexu decurrentibus canaliculam limitantibus in $^3/_5$ partibus supra basin confluentibus, marginibus basilaribus rotundatis, parte antica utroque latere seriatim verrucosum, inexplanatum supra visum subrhombeum, c. 0.25 cm longum. *Gynostemium* dorso convexum, c. 0.14 cm longum, apice triangulo-producto, auriculis elongatis, porrectis, antheram bene superantibus, filiformi-subulatis, vix curvulis. *Anthera* cucullata, supra visa transverse ovalis, truncata, connectivo costato-gibboso, c. 0.05 cm lata. *Pes gynostemii* cum ovario angulum obtusum faciens, incurvulus, oblongo-linearis, basin versus paulo dilatatus, apice truncatus, c. 0.15 cm longus. *Ovarium* obconicum, fere 0.1 cm longum; pedicellus filiformis, c. 0.8 cm longus, c. 0.1 cm supra basin articulatus.

BALI: Goenoeng Batoekaoe, 1925 m (Exp. R. MAIER, SARIP n. 367, 6 October 1918).

Near *B. poentjakense* J. J. S. from Java, of the section *Monilibulbum*, but with different pseudobulbs, longer peduncle and pedicel, a less warty lip, very different column, etc. There are no notes about the colour.

Description from herbarium.

Bulbophyllum Caecilii J. J. S., n. sp.

Rhizoma breve, ramosum, radicans, vaginis tubulosis, superioribus pseudobulbum amplectentibus apiculatis superne carinatis c. 1.7 cm longis. *Pseudobulbi* satis approximati, breves, sicco c. 0.3 cm alti 1folii. *Folium* petiolatum, lanceolato-lineare, obtusum, basi acuta sensim in petiolum angustatum, costa media dorso prominente, sicco crasse rigide coriaceum, c. 12-14.5 cm longum, 1.1 cm latum; petiolus longitudinaliter sulcatus, c, 3-3.5 cm longus. *Inflorescentia* laxe multiflora, pedunculo c. 9 cm longo, inferne nonnullis vaginulis tubulosis donato, rachide valde abrupte recurva, incrassata, c. 5.5 cm longa. *Bracteae* patentissimae, triangulae, acutae, concavae, sicco ad c. 0.2 cm longae. *Flores* incurvi, macerati, c. 1.1. cm longi, sepalis lateralibus rachidi subparallelis. *Sepalum dorsale* erectum, valde recurvum, ellipticum, obtusum, margine irregulare subpapillosum, 3nervium, costa media dorso vix prominula, fere 0.8 cm longum, 0.35 cm latum. *Sepala lateralia* apice excepto conglutinata, porrecta, superne recurva, convexa, inferne canalicula separata,

oblique oblongo-semiovata, obtusa, 3nervia, c. 0.775 cm longa, 0.25 cm lata. *Petala* parva, porrecta, gynostemio adpressa, recurva, convexa, e basi breviter oblique unguiculata abrupte orbiculari-ovata dilatata, acuta, lacinulato-erosa, 1nervia, c. 0.275 cm longa, bene 0.2 cm lata. *Labellum* mobile, lamella satis longa erecta tenui oblongo-quadrangula pedi gynostemii insertum, supra visum lanceolatum, obtusum, basi truncatum, parte inferiore marginibus erectis concava in partem superiorem in formam sulci longitudinalis usque ad $^2/_3$ supra basin producta, subtus convexa cum sulco longitudinali usque ad apicem producta, superne valde convexo-incrassatum, medio altissimum, marginibus recurvis subtus canaliculatum, apicem versus attenuatum, parte convexa cum marginibus decurrentibus dense verruculoso-papillosum, c. 0.575 cm longum, 0.14 cm latum. *Gynostemium* breve, cum ovario angulum obtusum faciens, curvulum, c. 0.2 cm longum, clinandrio concavo, pariete postico obtuse triangulo, auriculis conspicuis porrectis tripartitis, lacinia postica longissima porrecta recta subulata margine postico denticulo instructa (semper?), lacinia intermedia brevissima porrecta leviter falcatulo-decurva triangulo-subulata margine postico infra apicem dente obtuso instructa, lacinia antica posticam fere aequante porrecta falcato-decurva tenuissima filiformi. *Anthera* cucullata, infra medium constricta, transverse ovali reniformis cum connectivo costato-incrassato, in appendicem magnam obtusangule recurvam rotundato-cuneato-quadrangulam apice latissimam a parte inferiore sinibus obtusangulis sejunctam dense grosse papillosa, c. 0.1 cm longa, apice 0.08 cm lata. *Pollinia* 4, lateraliter compressa, exteriora ovalia extus convexa 0.04 cm longa, interiora multo minora tenuioraque obovata. *Rostellum* triangulum. *Stigma* longitudinale, lineare. *Pes gynostemii* brevissimus, cum ovario gynostemioque angulum obtusum faciens, crassus, truncatus, bene 0.1 cm longus. *Ovarium* pedicellatum obconicum, bene 0.2 cm longum.

SUMATRA. Bengkoeloe: Goenoeng Dempo, 1000 m (C. J. BROOKS n. 15920, August 1923; „dorsal sepal yellow with dark brown longitudinal streak, petals yellow with a dark spot at top, lip yellow").

Near *B. Osyricera* SCHLTR. of the section *Osyricera*, but the flowers are larger, the dorsal sepal blunt, petals broader and shortly clawed, the anterior part of the lip larger and the arms of the column different.

Description from a single dried specimen.

Bulbophyllum fissibrachium J.J.S., n. sp.

Rhizoma repens, crassiusculum, teres, c. 0.3 cm diam., radicans. *Pseudobulbi* c. 0.3 cm dissiti, parvi, oblique conico-disciformes, c. 0.3 cm alti et diam., 1folii. *Folium* erectum, petiolatum, lineari-lanceolatum, acutum, apice minutissime denticulatum, basi sensim in petiolum angustatum, supra in utraque parte costae mediae supra sulcatae, subtus convexo-prominentis convexum, acute marginatum, carnosum, fere 10 cm longum, 1.275 cm latum; petiolus magnam partem canaliculatus, basi teres, c. 2.25 cm longus. *Inflorescentia* e basi pseudobulbi, erecta, dense multiflora, folium longe superans,

pedunculo tereti, c. 18.5 cm longo, vaginulis c. 3 tubulosis acutis obtusisve carinatis prominenter nervosis ad c. 1.2 cm longis donato, rachide obtusangule nutante, incrassata, angulata, c. 21 cm longa, 0.25 cm diam. *Bracteae* densissimae, quaquaversae, patentissimae, triangulae, acutae, concavae, ad c. 0.275 cm longae. *Flores* parvi, patentissimi, incurvi, c. 0.575 cm longi, bene 0.5 cm lati. *Sepalum dorsale* horizontale, concavum, ultra medium recurvum, e basi late triangula anguste triangulo-acuminatum, acutum, nervis 3 praesertim intermedio dorso prominentibus, c. 0.37 cm longum, 0.36 cm latum. *Sepala lateralia* porrecta, contigua, apice recurvula, valde convexa, basi margine interiora concava, subtus concava, marginibus proximis valde incurvis, intus dense papillosa, carnosula, explanata oblique subovato-ovalia, falcata, obtusa, 3nervia, c. 0.55 cm longa, bene 0.3 cm lata. *Petala* porrecta, gynostemio adpressa, inferne concava, apice recurvulo convexa, suboblique spathulato-obovata, obtusa, apice minute erosula, 1nervia, carnosula, marginibus laminae tenuia, c. 0.25 cm longa, 0.14 cm lata. *Labellum* mobile, carnosum, leviter recurvulum, ligulato-oblongum, rotundatum, basi truncatum, marginibus basi utrinque in auriculam erectam triangulam productum, supra canalicula longitudinali apicem non attingente costis acutangulis superne decrescentibus limitata instructum, subtus parte mediana convexum cum canalicula longitudinali, praesertim margine leviter papillosum, c. 0.25 cm longum, 0.13 cm latum. *Gynostemium* breve, a dorso compressum, c. 0.18 cm longum, clinandrio concavo, pariete postico breviter aequilateraliter trapeziformi, auriculis conspicuis porrectis antheram superantibus subtridentatis, dente (vel saepe denticulis) postico brevissimo, dente mediano longissimo recto triangulo-subulato, dente antico patente breviore triangulo acuto. *Anthera* plane cucullata, transverse oblongo-quadrangula, 0.08 cm lata. *Stigma* obverse reniforme. *Pes gynostemii* cum ovario angulum obtusum faciens, vix curvulus, crassus, linearis, truncatus, c. 0.175 cm longus. *Ovarium* incurvulum, 6sulcatum, bene 0.2 cm longum, pedicellus teres, c. 0.25 cm longus.

SUMATRA. Bengkoeloe: Goenoeng Dempo, 1700 m (Exp. E. JACOBSON, AJOEB n. 506, 20 August 1916; „flowers striped purple").

Another very distinct species of the section *Osyricera* with very dense much elongate inflorescences and rather long pedicelled flowers.

Description from materials preserved in alcohol.

Bulbophyllum intervallatum J. J. S., n. sp.

Pseudobulbi dense aggregati, oblique subglobosi, crassiores quam alti, antice longitudinaliter canaliculati, apice excavati, nitidi, sordide virides, c. 0.8 cm alti, 0.9 cm diam. *Folium* lanceolatum, acutum, basi conduplicato-petiolato-contractum, supra obtusangule concava cum lateralibus convexis, subtus obtusangule convexum, costa media supra sulcata subtus ecarinata, rigide crasse carnosum, supra nitidum sordide atroviride, subtus opacum pallide viride, c. 8.5-12 cm longum, 2-2.25 cm latum. *Inflorescentia* patens, elongata, apice densius pluri(multi?)flora, pedunculo tenui, tereti, apice

incrassato, nitido, sordide atroviolaceo, apice viridi-suffuso, c. 25 cm longo. nonnullis vaginulis brevibus tubulosis donato, rachide crassa, brevinodi, internodiis sicco c. 0.175 cm longis. *Flores* intervallis singulatim expansi, magni, c. 6 cm lati, sepalis intus albidis basi ochraceis, dorso pallidissime purpurascentibus basi aureis striis 7-8 longitudinalibus purpureis versus medium evanescentibus, dorso sparse basi densius furfuraceo-puncticulatis, basi utrinque nitidis. *Sepalum dorsale* lineare, apicem versus sensim angustatum et marginibus incurvis subtubulosum, 7nervium, nervis exterioribus brevissimis, c. 4.35 cm longum, bene 0.4 cm latum. *Sepala lateralia* a sepalo intermedio distanter inserta, patentissima, oblique lineari triangula, apicem versus sensum angustata et superne conduplicata, 9nervia, c. 4.6 cm longa, 0.84 cm lata. *Petala* parva, porrecta, parallela, gynostemio adpressa et breviora, oblique ovata, obtusa, basi lata, 3nervia, semipellucida, pallide carnea, praesertim basin versus ochraceo-suffusa, nitida, c. 0.36 cm longa, 0.2 cm lata. *Labellum* mobile, supra basin erectam canaliculatam abrupte recurvum, porrectum, elongatum, rectum, apice incurvulum, lanceolatum, $^2/_5$ partibus superioribus caudato-acuminatum, acutum, supra convexum verrucosumque, costis 2 parallelis basin versus alato-dilatatis decurvisque canaliculam longitudinalem late linearem laevem limitantibus in bene $^1/_3$ inferiore, subtus concavum cum sulco longitudinali, subtus ad basin dilute ochraceum, deinde sordide purpureum apicem versus pallescens, intus basi dilute flavo-purpureum costis aureis superne pallide carneum, apice utrinque ochraceum, explanatum c. 4.6 cm longum, 0.63 cm latum. *Gynostemium* rectum, oblongum, dorso convexum, apice subtruncatum, nitidum, dilute flavum, apicem versus sensim aureum, absque anthera c. 0.4 cm longum, clinandrio satis alte excavato transverso aequilateraliter trapeziformi, auriculis latis obtusissimis. *Anthera* cucullata, transversa, subsemiorbicularis, apice truncato breviter obtuse denticulata, aurea, c. 0.225 cm lata. *Stigma* conspicuum, quadrangulum. *Pes gynostemii* cum ovario gynostemioque angulos subrectos faciens, bene $^1/_4$ parte apicali incurvus, apice a sepalis lateralibus liber dilatatus truncatus cum angulis obtusus, linearis, pallide flavescens, apice aureus, inexplanatus c. 0.7 cm longus. *Ovarium* elongato-obconicum, 6sulcatum, nitidum, costis alternatim sordide viridibus et sordide fuscis furfuraceo-puncticulatum, c. 0.55 cm longum; pedicellus teres, dilutius sordide fuscus, nitidus, laxius puncticulatus, c. 0.6 cm longus.

BORNEO: Bandjermasin (E. N. J. DELMAAR n. 14, cult in Hort. Bog.).

A species of the section *Dialeipanthe* much resembling *B. pugioniforme* J. J. S. but distinguished by the colour of the flowers, broader lateral sepals, different petals, a broader lip.

Description from a cultivated plant and a dried young inflorescence.

Bulbophyllum salebrosum J. J. S., n. sp.

Rhizoma teres, radicans, vaginis fibras relinquentibus. *Pseudobulbi* ovoideo-conici, multicostati, antice longitudinaliter canaliculati, c. 2.1 cm longi,

1.3 cm diam., 1folii. *Folium* erectum, lanceolatum, apice (deficiente) recurvum, basi acuta in petiolum contractum, costa media supra sulcata subtus prominente, carnosum, totum c. 17 cm longum, 4.4 cm latum, petiolo canaliculato, c. 2 cm longo. *Inflorescentiae* ut videtur 2 e basi pseudobulborum, elongati, intervallis flores singulatim gignentes, pedunculo tenui, tereti, duro, apice paulum incrassato c. 33-35.5 cm longo, vaginulis c. 4-5 tubulosis donato, rachide flexuosa, internodiis c. 0.5 cm longis. *Bracteae* alternatim bifariae, patentes, conduplicato-concavae, basi infundibuliformes, valde carinatae, dense punctatae, ad c. 0.8-0.9 cm longae. *Flores* mediocres, carnosuli. *Sepalum dorsale* lanceolatum, apicem versus angustatum, acutum, marginibus apice incurvis apiculatum, supra basin utrinque dente instructum, concavum, nervis 7 dorso prominentibus, dorso puncticulatum, c. 2 cm longum, 0.65 cm latum. *Sepala lateralia* remote a sepalo dorsali inserta, oblique oblongo-triangula, apicem versus sensim angustata, acuta, apiculata, margine postico supra basin paulo obtusangule dilatata, angulato-concava, nervis 7 dorso prominentibus, costa media carinata, dorso puncticulata, bene 2.2 cm longa, 0.95 cm lata. *Petala* parva, porrecta, parallela, verticalia, gynostemio adpressa, oblique ovato-triangula vel plus minusve quadrangula, superne lacinulata, in filum aequilongum producta, leviter concava, margine leviter convexa, nervo 1 dorso prominente, tota fere 0.7 cm longa, bene 0.3 cm lata, seta fere 0.4 cm longa. *Labellum* mobile, in c. $^1/_3$ supra basin obtusangule recurvum, carnosum, subtrilobum, supra visum lanceolato-triangulum, apicem versus sensim angustatum, subacutum, basi lobis lateralibus parvis erectis oblique triangulis, superne crenulatis late canaliculatum, supra e basi usque ad apicem sulcatum marginibus ante lobos laterales recurvis magnam partem convexum, costis 2 longitudinalibus in parte inferiore conspicuis supra basin altissimis decurvis crenulatisque superne sensim decrescentibus; costis 2 conspicuis a margine antico loborum lateralium decurrentibus crenulatis superne cum ceteris confluentibus, parte antica subtus concavum, utrinque valde verrucoso, rugosum, inexplanatum c. 1.65 cm longum, 0.5 cm latum. *Gynostemium* rectum, supra visum oblongo-quadrangulum, dorso convexum cum sulco longitudinali ad apicem, subtus concavum, c. 0.7 cm longum, clinandrio concavo, pariete postico brevissime bidentato, auriculis conspicuis, porrectis, verticalibus, antheram bene superantibus, oblique quadrangulis, obtusis, apice anguste serrulatis margine antico in appendicem filiformem longiorem productis. *Anthera* cucullata, subsemiorbicularis, apice dilatato truncato abrupte incurva subdenticulataque, c. 0.225 cm lata. *Stigma* conspicuum, quadrangulum, basi in lobos 2 divergentes convexos sinu rotundato sejunctos productum. *Pes gynostemii* cum ovario angulum subrectum faciens, vix incurvulus, apice libero brevi rectangule incurvus, lineari-oblongus, truncatus, concavus, carnosus, c. 0.75 cm longus. *Ovarium* 6sulcatum, c. 0.8 cm longum; pedicellus tenuior, 0.8 cm longus. *Capsula* clavata, rotundato-trigona, in angulis latis longitudinaliter canaliculata, costa prominente in lateribus, c. 4.8-5.2 cm longa, 1 cm diam., in valvas 6 lineares alternatim latiores angustioresque basi apiceque cohaerentes dehiscens, pedicello 1.1-1.2 cm longo.

SUMATRA. West coast: Ophir districts, Sasak, in coast-marches on *Metroxylon* (W. GROENEVELDT, cult. in Hort. E. JACOBSON sub n. 1039; „pseudobulbs and leaves green, peduncle greenish black, apex green, pedicel and ovary light green, sepals very light green with 7 longitudinal purple nerves not reaching the apex, the middle one provided with a green keel outside, the margins on both sides and the apex outside suffused with purple, petals light yellowish green with a purple midline and two purple blotches on each side, lip blackish purple, the apex of the sidelobes with a very narrow yellowish green border, column greenish yellow dotted purple at the top, anther light purple with a pale greenish yellow stroke, column foot greenish yellow heavily suffused with purple").

This species of the section *Dialeipanthe* has several near allies in New Guinea as e.g. *B. digoelense* J. J. S., *B. Pristis* J. J. S., *B. rigidipes* SCHLTR., *B. tenuipes* SCHLTR. etc. Amongst the more western forms it is allied to *B. cleistogamum* RIDL., from Riau and *B. Nieuwenhuisii* J. J. S. from Borneo. Both are only known in a peloric state and therefore inappropriate for comparison.

Description from materials preserved in alcohol.

Bulbophyllum laxiflorum LNDL., Gen. et sp. Orch. 57; etc.
var. **taluense** J. J. S., n. var.

Rhizoma repens, radicans. *Pseudobulbi* c. 0.7 cm vel plus dissiti, oblique ovoidei, longitudinaliter canaliculati, c. 1.4-2 cm longi, 0.95-1 cm diam., 1folii. *Folium* erectum, anguste oblongum, obtusum, basi obtusum, brevissime conduplicato-contractum, costa media supra sulcata, tenuiter carnosum, c. 5.4 cm longum, 1.8 cm latum. *Inflorescentiae* e basi pseudobulborum, erectae, apice dense multiflorae, subumbellatae, pedunculo tereti, c. 4.8-5.2 cm longo, nonnullis vaginulis tubulosis donato, rachide brevissima, paulo incrassata, conica, c. 0.45-0.6 cm longa. *Bracteae* oblongo-triangulae, longe acute angustatae, concavae, 1nerviae, c. 0.3 cm longae. *Flores* plures quam 20, parvi, quaquaversi, c. 0.45 cm longi. *Sepalum dorsale* in $^2/_5$ partibus supra basin obtusangule incurvum, concavum, oblongum, longius canaliculato-subulato-acuminatum, acutum, apice incrassatulum, margine basi apiceque excepto clavato-ciliatum, c. 0.5 cm longum, fere 0.2 cm latum. *Sepala lateralia* divergentia, oblique oblonga, longe canaliculato-subulato-acuminata, concava, apice incrassatulo falcatula, glabra, 3nervia, bene 0.5 cm longa, fere 0.2 cm lata, apice 0.24 cm longo. *Petala* porrecta, parallela, oblique subovato-rhombea, longius acute acuminata, intus margineque clavato-puberula, concava, 3nervia, c. 0.4 cm longa, 0.17 cm lata. *Labellum* minimum, mobile, simplex, recurvum, supra convexum 3costatumque, costa mediana recta superne evanescente, costis exterioribus altioribus curvulis infra apicem confluentibus, subtus concavum basi tantum convexum tota longitudine longitudinaliter sulcatum, inexplanatum supra visum ovato-cordatum, apice contractum obtusum, lobis basilaribus rotundatis, glabrum, c. 0.15 cm longum, 0.08 cm latum.

Gynostemium brevissimum, crassum, marginibus in utraque stigmatis parte leviter rotundato-dilatatis, c. 0.15 cm longum, clinandrio concavo subsemi-orbiculari pariete postico leviter producto truncato cum apiculo minuto (filamento), auriculis porrectis satis longis tenuiter filiformi-subulatis vix sursum curvulis margine postico basi denticulo instructis. *Anthera* cucullata, e basi transverse ovali in rostrum bene angustius transverse quadrangulum truncatum apice vix recurvulum abrupte producta, c. 0.07 cm lata. *Pollinia* 4, exteriora semiorbicularia, interiora multo minora. *Stigma* conspicuum, alte excavatum, longitudinale, ovale, apice leviter contractum. *Pes gynostemii* parvus, cum ovario angulum obtusum faciens, e basi dilatata apicem versus angustatus, incurvulus, truncatus, apice incurvulo a sepalis lateralibus libero, c. 0.075 cm longus. *Ovarium* breve, obconicum, 6sulcatum, c. 0.14 cm longum; pedicellus elongatus, c. 1 cm longus.

SUMATRA. West coast: Ophir districts, Taloe (W. GROENEVELDT, cult. in Hort. E. JACOBSON sub n. 1027; „pseudobulbs somewhat yellowish green, leaves green, peduncle light yellowish green, pedicel and ovary light yellow with a greenish tint, sepals and petals transparently creamy yellow, somewhat darker at the tip, lip light creamy yellow, column yellowish white".).

This variety differs from *B. laxiflorum* LNDL. from Java and Sumatra in the leaves being obtuse at the base and the apex, smaller differently coloured flowers, much more acuminate sepals and petals, the lip provided with 3 ribs. Better materials may show that it is better to give it specific rank.

Description from poor materials preserved in alcohol.

Bulbophyllum Stelis J. J. S., in Bull. Jard. Bot. Buit. 3e sér., VIII(1927) 365.
var. **humile** J. J. S., n. var.

Parvum, caespitosum. *Rhizoma* breve, ramosum, radicans. *Pseudobulbi* approximati, minuti, disciformes, fere 0.1 cm alti, 0.2 cm diam., initio vaginis tubulosis carinatis apiculatis ad 1.75 cm longis ad basin. *Folium* erectum, lineari-lanceolatum, apice angustatum, obtusum, basi sensim in petiolum angustatum, obtusangule canaliculatum cum sulco longitudinali, subtus obtusangule convexum cum costa media prominula, carnosulum, totum c. 11.5-12.5 cm longum, 1.1 cm latum, petiolo canaliculato c. 1.8-2 cm longo. *Inflorescentiae* 2 e basi pseudobulborum, erectae, laxe pluriflorae, folio breviores, basi reliquiis vaginarum cinctae, pedunculo c. 2.2-3 cm longo, nonnullis vaginulis plerumque tubulosis apicem versus carinatis apiculatis ad c. 0.8 cm longis in parte inferiore, rachide angulata, minute papullosa, c. 4-7 cm longa. *Bracteae* triangulae vel subquinquangulares, acuminatae, acutae, concavae, ovarium aequantes, ad c. 0.3 cm longae. *Flores* parvi, quaquaversi, pallidissime flavescentes apicibus sepalorum labelloque paulo intensiores, c. 0.575 cm diam. *Sepalum dorsale* horizontale, apice incurvulum, parte inferiore concavum, superne marginibus recurvis convexum, oblongum, inferne leviter unguiculato-contractum, apice angustatum acutiusculum, brevissime conico-apiculatum, 3nervium, c. 0.37 cm longum, 0.15 cm latum. *Sepala*

lateralia divergentia, oblique ovato-triangula, subfalcatula, acutiuscula breviter apiculata, basi rotundata, praesertim basi concava, 3nervia, costa media dorso prominula, c. 0.4 cm longa, fere 0.3 cm lata. *Petala* porrecta, fere horizontalia, oblique anguste subspathulato-rhombea, obtusa, convexa, apice incrassatula, parte superiore margine papillosa, 1nervia, bene 0.2 cm longa, 0.075 cm lata. *Labellum* mobile, recurvum, tenuisculum, latum, oblongum, in utraque parte canaliculae longitudinalis apicem versus decrescentis fere usque ad apicem productae convexum, margine apicali minutissime papillosum, callis 2 brevibus longitudinalibus convexis supra basin, 3nervium, c. 0.24 cm longum, 0.17 cm latum, explanatum cordato-ovatum, obtusum, c. 0.34 cm longum, bene 0.2 cm latum. *Gynostemium* brevissimum, crassum, cum anthera c. 0.1 cm, absque anthera 0.075 cm longum, clinandrio concavo, pariete postico quadrangulo dorso obtuse gibboso, filamento filiformi, auriculis porrectis anthera brevioribus triangulis acutis margine antico obtusangule dilatatis. *Anthera* cucullata, apice in lobulum conspicuum paulo angustiorum tranverse ovalem producta, fere 0.05 cm lata. *Pollinia* 2, lateraliter compressa, rotundato-triangula, extus convexa, intus plana. *Stigma* alte excavatum, urceolatum, basin gynostemii attingens. *Pes gynostemii* cum ovario angulum obtusum faciens, late linearis, apice libero paululum dilatato incurvus, callo conspicuo lateraliter compresso triangulo obtuso in basi, c. 0.16 cm longus. *Ovarium* oblique obconicum, 6sulcatum, c. 0.15 cm longum; pedicellus tenuior, c. 0.1 cm longus.

SUMATRA. Bengkoeloe: Rimbo Pengadang (Exp. E. JACOBSON, AJOEB, liv. pl. cult. in Hort. Bog. sub nrs. 870 and 875).

This differs from the type in the smaller dimensions, papillose rachis, smaller flowers, less acuminate sepals and the anther being much broader at the apex.

Description from herbarium and material preserved in alcohol.

Bulbophyllum humiligibbum J. J. S., n. sp.

Rhizoma repens, teres, brevinode, c. 0.4 cm diam., radicans, vaginis tubulosis carinatis superne accrescentibus ad c. 6.75 cm longis omnino obtectum. *Pseudobulbi* c. 2.5 cm dissiti, parvi, disciformes, leviter longitudinaliter multisulcati, c. 0.2 cm alti, 0.55 cm diam. *Folium* lanceolatum, apice recurvulum conduplicatumque, obtusum, basi acuta in petiolum angustatum, costa media supra sulcata subtus obtuse carinata, margine recurvulum, coriaceum, c. 20 cm longum, 4.2 cm latum; petiolus canaliculatus, basi subteres, c. 7.5 cm longus. *Inflorescentia* subdense multiflora, pedunculo brevi, c. 2.5 cm longo, vaginulis sese amplectentibus ample tubulosis carinatis lateraliter compresse lineari-triangulo-apiculatis ad c. 2 cm longis omnino obtecto, rachide longitudinaliter obtuse costata, c. 11-12.5 cm longa. *Bracteae* adpressae, satis longae, subulato-lanceolatae, acutae, incurvulae, concavae, 1nerviae, ad c. 1 cm longae, superiores minores. *Flores* parvi, quaquaversi, c. 0.48 cm longi, sepalis conniventibus. *Sepalum dorsale* horizontale, con-

cavum, inferne marginibus magis incurvis contractum, lineari-oblongum, apice marginibus incurvis incrassatisque breviuscule acuminatum, 3nervium, c. 0.425 cm longum, 0.125 cm latum. *Sepala lateralia* cum pede gynostemii mentum breve obtusum cum ovario angulum obtusum faciens formantia, oblique oblongo-triangula, marginibus apice incurvis lateraliter compresso-subulato-attenuata, acuta, margine antico basi inconspicue dilatata, concava, 3nervia, costa media dorso incrassata, c. 0.475 cm longa, bene 0.2 cm lata. *Petala* porrecta, parallela, anguste oblique spathulato-rhombea, obtusiuscula, convexa cum sulco longitudinali, parte antica margine papillosa; 1nervia, c. 0.2 cm longa, 0.075 cm lata. *Labellum* mobile, valde recurvum, parte inferiore marginibus erectis canaliculatum cum costis 2 longitudinalibus parallelis in bene $^1/_3$ supra basin terminantibus, ceterum convexum cum canalicula longitudinali apicem non attingente, oblongum, acutum, glabrum, eciliatum, carnosum, c. 0.225 cm longum, bene 0.1 cm latum, explanatum oblongum, fere 0.3 cm longum, bene 0.125 cm latum. *Gynostemium* brevissimum, c. 0.1 cm longum, clinandrii lobo postico producto obtuso apiculato, auriculis paulo longioribus, porrectis, breviter triangulo-subulatis, margine antico plus minusve obtusangule dilatatis, extus longitudinaliter costato-incrassatis. *Anthera* alte cucullata, apice lato brevissime obtuse 3lobulato, lobulo intermedio longiore, connectivo vix convexo-incrassato, c. 0.03 cm lata. *Pollinia* in corpusculum subglobosum unita. Stigma alte excavatum. *Pes gynostemii* cum ovario angulum obtusum faciens, apice incurvulus, linearis, apice ultimo a sepalis lateralibus libero incurvoque, truncatus, callo longitudinali a stigmate decurrente anguste canaliculato V formi omnibus humili abrupte rectangule vel obtusangule terminante in $^3/_5$ partibus inferioribus, c. 0.13 cm longus. *Ovarium* breve, crassum, obconicum, 6sulcatum, c. 0.17 cm longum; pedicellus cum ovario angulum obtusum faciens, tenuior, crassiusculus, bene 0.1 cm longus.

SUMATRA. West coast: Loeboek Sikaping (W. GROENEVELDT, cult. in Hort. E. JACOBSON sub n. 365; also cult. in Hort. Bog. II M, d 261; „leaves green, peduncle, bracts and pedicels very light yellowish green, ovary light yellowish green, sepals and petals transparently very light yellow, the tips a little darker, lip light greenish yellow at the base, light yellow in the centre, yellow at top, column transparently very yellowish green, anther light yellow, pollinia transparently yellow; the flowers have a strong scent of sperma").

Amongst the species of the section *Aphanobulbon* with a low callus on the columnfoot this is distinguished by the distinctly petiolate wide leaves, dense inflorescences shorter than the leaves with a short peduncle wholly covered by mediumsized sheaths, rather long bracts, etc.

Description from material preserved in alcohol.

Bulbophyllum citrellum J. J. S., n. sp.

Rhizoma repens, teres, radicans. *Pseudobulbi* c. 1-1.5 cm dissiti, disciformes, medio depressi, c. 0.2-0.26 cm alti, 0.6-0.65 cm diam *Folium* erectum, petiolatum, anguste oblongum ad oblongum, obtusum, basi abrupte in petiolum

contractum, supra in utraque parte costae mediae supra sulcatae subtus prominente leviter convexum, acute marginatum, carnosum, c. 6-9 cm longum, 1.8-2.5 cm latum; petiolus subteres, antice canaliculatus, c. 0.7-2.4 cm longus. *Inflorescentia* singula e basi pseudobulborum, erecta, folium superans, laxius multiflora, pedunculo c. 5-6 cm longo, vaginulis c. 6 sese partim amplectentibus tubulosis apice paulo ampliatis carinatis superne accrescentibus ad c. 3.1 cm longis tecto, rachide longitudinaliter costata, c. 8 cm longa. *Bracteae* subulatae, acutae, concavae, ad c. 0.575 cm longae, 0.12 cm latae. *Flores* quaquaversi, mediocres, c. 0.85 cm longi, 0.75-1 cm lati. *Sepalum dorsale* horizontale, anguste lanceolatum, sensim longe subulato-acuminatum, leviter concavum, 3nervium costa media dorso incrassata, c. 0.85 cm longum, 0.175 cm latum, apice subulato canaliculato c. 0.25 cm longo. *Sepala lateralia* divergentia, oblique lanceolato-triangula, longe canaliculato-subulato-acuminata, concava, 3nervia, c. 0.9 cm longa, 0.24 cm lata. *Petala* multo minora, porrecta, parallela, anguste rhombeo-lanceolata, sensim subulato-acutata, $^3/_5$ partibus superioribus minute papillosa, 1nervia, c. 0.325-0.35 cm longa, ad 0.1 cm lata. *Labellum* mobile, ante medium recurvum, apice vix incurvulum, marginibus erectis canaliculatum, marginibus medio recurvis superne patentissimis, linguiforme, costulis 2 inconspicuis longitudinalibus convexis supra ad basin, subtus longitudinaliter sulcatum, glabrum, 3nervium, 0.325 cm longum, explanatum ambitu ovatum, e basi utrinque rotundato-dilatata triangulo-contractum, vix acuminatum, acutum, c. 0.35 cm longum, 0.17 cm latum. *Gynostemium* brevissimum, dorso convexum, c. 0.1 cm longum, clinandrio concavo, lobo postico producto obtuso apiculato, auriculis anthera brevioribus porrectis breviter triangulo-subulatis acutis margine antico obtusangule dilatatis. *Anthera* alte cucullata, apice breviter obtusangule producta, c. 0.07 cm longa. *Pollinia* in corpusculum subglobosum unita. *Stigma* alte excavatum, urceolatum. *Pes gynostemii* cum ovario angulum obtusum faciens, linearis, apice incurvulus, truncatus, dimidio inferiore callo longitudinali supra viso anguste triangulo a latere viso obtuse triangulo instructus, c. 0.16 cm longus. *Ovarium* obconicum, rotundato-trigonum, 6sulcatum, c. 0.15 cm longum; pedicellus vix tenuior, teres, c. 0.175 cm longum.

SUMATRA. West coast: Agam, Palembajan (W. GROENEVELDT, cult. in Hort. E. JACOBSON sub n. 469; „rhizome more than 0.5 m long, much ramified, sheaths of peduncle green afterwards yellow and brown when dry, peduncle light green, bracts pedicel and ovary greenish yellow, flower light lemon-yellow, the sepals little darker at the tip, petals somewhat greenish, stigma light green, anther light yellow").

This plant in habit much resembles *B. petiolatum* J. J. S. but it has much narrowed sepals, very acute petals and an acute lip.

Description from materials preserved in alcohol.

Bulbophyllum mentiferum J. J. S., n. sp.

Rhizoma elongatum, repens, ramosum, teres, 0.37 cm. diam., radicans. *Pseudobulbi* conico-disciformes, fere 0.3 cm alti, 0.5 cm diam. *Folium* erectum,

lineari-lanceolatum, apice recurvum, obtusum, basi sensim petiolato-angustatum, margine acuto recurvulum, costa media supra sulcata subtus obtuse carinata, carnoso-coriaceum, totum c. 16-17 cm longum, 1.5-1.6 cm latum, petiolo 0.3 cm longo. *Inflorescentia* singula e basi pseudobulborum, vaginis communibus nullis vel evanidis, laxe satis multiflora, folium aequans, pedunculo c. 8-8.5 cm longo, vaginulis c. 7 tubulosis apice ampliatis longeque apertis leviter compressis carinatis acutis superioribus magis remotis accrescentibusque ad c. 1.65 cm longis magna parte obtecto, vaginula ultima bracteiformi, rachide angulato-costata, c. 8 cm longa. *Bracteae* lineari-triangulae, acutae, concavae, 1nerviae, ad c. 0.85 cm longae, bene 0.2 cm latae. *Flores* c. 20-22, parvuli, c. 0.925 cm diam. *Sepalum dorsale* basi porrectum, ante medium valde recurvum, basi concavum, ceterum convexum, oblongum, obtusum, breviter conico-apiculatum, basin versus paululum angustatum, 3nervium, c. 0.575 cm longum, 0.24 cm latum. *Sepala lateralia* cum pede mentum satis conspicuum cum ovario angulum subrectum faciens incurvulum conicum angustius obtusum c. 0.33 cm longum formantia, supra basin concava, recurva, convexa, marginibus anticis basi breviter connata, oblique oblongo-triangula, breviter conico-acuminata, acuta, margine antico basi paulum dilatata, apice canaliculata, dorso carinata, 3nervia, c. 0.6-0.66 cm longa, basi 0.4 cm, supra basin 0.275 cm lata. *Petala* porrecta, oblique ovato-oblonga, apice angustata, obtusiuscula, margine recurvo, nervo 1 dorso crasse convexo-prominente, bene c. 0.3 cm longa, bene 0.15 cm lata. *Labellum* mobile, erectum, recurvum, anguste oblongum, parte inferiore marginibus erectis postice in auriculam reversam rotundato-truncatum productis canaliculatum, marginibus ante medium laxe undulatis, parte apicali more Ceratostylis valde carnoso-incrassata convexaque marginibus recurvis crassa subtus medio concava rotundato-obtusa, callo transverso sinu obtusangulo bilobulo ad basin, costis 2 validis longitudinalibus parallelis obtusis superne plicis marginalibus parallelis in parte incrassata evanescentibus, antepositis, costa tertia interposita humiliore basin versus evanescente infra basin partis incrassatae abrupte elevata incrassataque deinde evanescente, glabrum, inexplanatum c. 0.42 cm longum, fere 0.2 cm latum. *Gynostemium* breve, crassum, absque anthera c. 0.14 cm longum, clinandrio parvo, concavo, lobo postico quadrangulo apice vix exciso leviter concavo dorso convexo, auriculis porrectis anthera brevioribus oblique triangulis breviter subulato-acuminatis acutis margine antico basi leviter rotundato-dilatatis. *Anthera* cucullata, ovata, obtusa, apice incurva, connectivo longitudinaliter ovali-oblongo convexo-incrassato, c. 0.08 cm lata. *Pollinia* 2, lateraliter compressa, obovato-triangula, extus convexa, intus plana, c. 0.07 cm longa. *Stigma* alte excavatum, suborbiculare. *Pes gynostemii* cum ovario angulum subrectum faciens, linearis, incurvulus, apice abrupte incurvus brevissime a sepalis liber et cum basi sepalorum lateralium sacculatus, marginibus incrassatis infra stigma paulo crassioribus canaliculatus, ecallosus, c. 0.325 cm longus. *Ovarium* obconicum, 6sulcatum, cum pedicello angulum obtusum faciens, c. 0.225 cm longum; pedicellus 0.27 cm longus.

SUMATRA. Bengkoeloe: Goenoeng Dempo, 1700 m (Exp. E. JACOBSON, AJOEB n. 542, 28 August 1916; „flowers white, lip yellow").

A very distinct species of the section *Aphanobulbon*. The mentum is rather conspicuous for the group and somewhat sacculate at the top. The glabrous lip, undulate in the middle and much thickened at the top is provided with 3 strong keels, unusual in the section.

Description from materials preserved in alcohol.

Bulbophyllum deminutum J. J. S., n. sp.

Pusillum. *Rhizoma* elongatum, repens, teres, ad nodos radicans, vaginis tubulosis obtusis apiculatis carinatis tectum. *Pseudobulbi* c. 1.3-1.5 cm dissiti, minimi, disciformes, c. 0.06 cm alti, 0.13 cm diam. *Folium* elliptico-ovatum, brevissime apiculatum, basi abrupte breviter petiolato-contractum, margine apicali leviter papillosum, costa media supra sulcata, crasse carnosum, totum c. 1.6-1.8 cm longum, 0.8-0.9 cm latum, petiolo c. 0.1-0.15 cm longo. *Inflorescentia* singula e basi pseudobulborum, 1flora, pedunculo tenui, c. 1.2 cm longo, vaginulis c. 4 tubulosis acutis carinatis superioribus accrescentibus et apice patentibus, ad c. 0.53 cm longis donato. *Bractea* lanceolata, acuminata, acuta, concava, c. 0.35 cm longa. *Flos* c. 0.9 cm longus, sepalis conniventibus. *Sepalum dorsale* horizontale, apice recurvulum, lanceolatum, breviter acuminatum, acutum, concavum, 3nervium, c. 0.725 cm longum, 0.22 cm latum. *Sepala lateralia* cum pede gynostemii mentum deorsum spectans cum ovario angulum subrectum faciens incurvulum obtusum c. 0.33 cm longum formantia, oblique oblongo-triangula, breviter canaliculato-subulato-acuminata, basi margine antico in lobum triangulum dilatata, basi rotundata, concava, 3nervia, c. 0.68 cm longa, basi 0.425 cm supra basin 0.3 cm lata. *Petala* porrecta, parallella, oblique spathulato-lanceolata, obtusa, basi concava, superne leviter incrassata papillosaque, 1nervia, c. 0.45 cm longa, 0.13 cm lata. *Labellum* mobile arcuato-recurvum, ligulatum, inferne marginibus erectis convexis canaliculatum, superne marginibus valde recurvis convexum, canalicula superne decrescente ultra medium producta, costis 2 longitudinalibus parallellis approximatis convexis canalicula inconspicua separatis mox evanescentibus in canalicula supra basin, glabrum, 3nervium, c. 0.53 cm longum, explanatum oblongum, superne paulo dilatatum, apice angustatum, obtusum, basi truncatum, c. 0.725 cm longum, fere 0.3 cm latum. *Gynostemium* breve, crassum, oblique conicum, dorso convexum, subtus concavum, marginibus in utraque stigmatis parte obtusangule dilatatis, c. 0.125 cm longum, clinandrio concavo, lobo postico transverso aequilateraliter trapeziformi truncato crasso cum apiculo (filamento) brevissimo, auriculis porrectis leviter sursum curvulis, antheram superantibus triangulis breviter subulato-acuminatis. *Anthera* cucullata, apice producta dilatata incurva convexa rotundata, connectivo anguste leviter costiformi-incrassato, c. 0.075 cm lata. *Pollinia* subovalia, extus convexa, intus concava, fere 0.05 cm longa. *Stigma* alte excavatum, longitudinale, subquinquangulare. *Pes gynostemii* cum ovario angulum subrectum faciens, subrectus, apice tantum

incurvus, linearis, ecallosus, c. 0.34 cm longus. *Ovarium* teres, 6sulcatum.

SUMATRA. West coast: Loeboek Sikaping (W. GROENEVELDT, cult. in Hort. E. JACOBSON sub n. 148; „ovary light yellowish green, flowers white, lateral sepals with a greenish tip, column greenish white").

In habit and shape of flower this wholly agrees with the section *Aphanobulbon*, but it is, as far as I know, the first species of that section with uniflorous inflorescences. But there are two species with biflorous inflorescences which in my opinion belong here, viz. *B. peperomiifolium* J. J. S. from Java and *B. mutabile* LNDL. from Sumatra, Java, Bali and Selebes.

Description from material preserved in alcohol.

Dipodium conduplicatum J. J. S., n. sp.

Caulis validus, scandens, spiralis, radicans. *Folia* alternatim bifaria, patentia, loriformia, apicem versus sensim angustata, nervis 3 validis praesertim intermedio dorso prominentibus 4 minoribus alternantibus, costa media supra sulcata, margine recurvula, tenuiter coriacea, c. 21 cm longa, 3.8 cm lata; vaginae supra basin tubulosam canaliculatae, erecto-patentes, recurvulae, c. 9 cm longae. *Inflorescentiae* axillares, folia paulo superantes, laxe pluriflorae, pedunculo valido, tereti, c. 24 cm longo, vaginulis c. 3 brevibus donato, rachide compressa, angulata, c. 17-24 cm longa. *Bracteae* adpressae, triangulae, obtusae, ad c. 0.6 cm longae. *Flores* c. 10-12, mediocres, c. 2 cm lati, bene 2.5 cm longi, sepalis petalisque patentissimis revolutis carnosulis. *Sepalum dorsale* obovato-oblongum, obtusum, convexum, c. 7nervium, bene 1.7 cm longum, 0.78 cm latum. *Sepala laterialia* oblique oblonga, basin versus paululum angustata, obtusa, convexa, 7nervia, c. 1.95 cm longa, 0.7 cm lata. *Petala* oblique obverse rhombeo-lanceolata, acuta, convexa, 5nervia, c. 1.875 cm longa, 0.6 cm lata. *Labellum* angustissimum, 3lobum, basi gynostemio brevissime rotundato-subsacculato-adnatum, excavatione antice incrassatione convexa minute papillosa limitata, totum c. 1.9 cm usque ad apicem loborum lateralium 0.7 cm longum; lobi laterales parvi, porrecti, gynostemio adpressi et eo breviores, recti, oblique lineares, obtusi, leviter convexi, glabri; lobus intermedius porrectus, valde reverse conduplicatus, lateribus adpressis angustissimus, linearis, lateribus semiellipticis, longe acuminatus, incrassatione conspicua longitudinali triangula supra plana vel vix concava velutina in c. $^2/_5$ partibus supra basin lobi intermedii in callum triangulum obtusum papillosum terminante, ante callum puberulus, in $^2/_5$ partibus superioribus fascia villosa angusta superne paulo dilatata apicem attingente ornatus, costis 7 longitudinalibus curvatis. *Gynostemium* crassum, apicem versus incrassatum, rectum, dorso convexum minuteque papillosum, subtus concavum cum marginibus crassis, basi longitudinaliter concavo-excavatum, excavatione et infra stigma glabrum ceterum subtus puberulum, marginibus auriculis exceptis puberulis, dorso 0.8 cm, e basi usque ad apicem antherae 1.1 cm longum, clinandrio margine elevato, convexo, longitudinaliter crasse tricostato, lobo dorsali

abrupte recurvo parvo triangulo obtuso dentato papilloso, auriculis latissimis rotundatis dente obtuso instructis carnosis. *Anthera* alte cucullata, ambitu orbicularis, margine angusto recurvo excepto subquadrato-incrassata angulis rotundata et utroque latere retusa, apice truncato minute papillosa, c. 0.27 cm lata. *Pollinia* 2, a dorso compressa, fissa, rotundato-triangula, stipite alte bipartito, laciniis angulum acutum facientibus recurvulis anguste triangulis obtusiusculis antice convexis, glandula stipite aequilata rotundato-triangula antice late rotundata crassa. *Rostellum* transversum, brevissimum, 3lobulum, lobulo intermedio brevi rotundato, lobulis exterioribus paulo longioribus incurvulis obtusis. *Stigma* fere apicale, parvum, alte excavatum. *Ovarium* teres, 6sulcatum, c. 1.2 cm longum; pedicellus aequicrassus, teres, c. 1.5 cm longus.

SUMATRA. Westcoast: Agam, Boekit Batoe Banting (W. GROENEVELDT, cult. in Hort E. JACOBSON sub n. 1179; „leaves green, peduncle yellowish green suffused with light purple towards the apex, bracts rosy brown, purple at the base outside, pedicel white with a purple hue, ovary white, sepals and petals white with irregular purple dots on the back, basal part of lip and side-lobes white, the thickening light greenish yellow, midlobe light purple with 7 very light purple longitudinal nerves, with a few somewhat darker dots along the margin, apex white, hairs white, column white, the clinandrium bordered yellow, anther white.").

From the allied *D. purpureum* J. J. S. from Borneo this differs in the smaller flowers with much recurved sepals and petals, the sepals and petals not being blotched on the inner surface, the base of the lip being white with a greenish yellow thickening, a very much conduplicate hence very narrow midlobe, rotundate triangular pollinia, shorter and broader arms of the stipes, a shorter ovary and pedicel.

I do not know whether the inflorescences are arching or straight.

Description from materials preserved in alcohol.

Dipodium bicallosum J. J. S., n. sp.

... *Inflorescentiae* laxe pluriflorae, pedunculo (parte adest) tereti, c. 10-14 cm longo, vaginulis c. 2-3 brevibus donato, rachide compresso-angulata, c. 7.5-8 cm longa. *Bracteae* patentes, triangulae, obtusae, valde concavae, ad c. 0.7 cm longae. *Flores* 6-7, mediocres, carnosuli, c. 2-8 cm lati, sepalis petalisque divergentibus, sepalo dorsali petalisque supra basin recurvis. *Sepalum dorsale* obovato-oblongum, rotundatum, superne leviter concavum, 7-9nervium, c. 1.6 cm longum, 0.77 cm latum. *Sepala lateralia* oblique anguste oblonga, obtusa, basi leviter contracta, valde concava, c. 9nervia, c. 1.75 cm longa, 0.7 cm lata. *Petala* oblique obverse rhombea, obtusa, convexa, 5nervia, c. 1.55 cm longa, 0.7 cm lata. *Labellum* gynostemio arcte adpressum, 3lobum, explanatum, c. 1.6 cm usque ad apicem loborum lateralium 1 cm longum, ad lobos laterales 1.1 cm latum, basi gynostemio brevissime rotundato-subsacculato-adnatum, excavatione semiorbiculari antice callis 2 conspicuis collateralibus rotundatis canalicula separatis facie proxima rectis convexis

papillosis limitata, antice in incrassationem validam longitudinalem oblongam apicem versus angustatam satis planam basi tantum longitudinaliter sulcatam puberulam fere in medio lobi intermedii obtuse terminatam ubi longius pilosam gynostemio adpressam productis; lobi laterales conspicui, porrecti, divergentes, gynostemium aequantes, basi lata obliqua inserti, oblique lineari-oblongi, subfalcatuli, obtusi, convexi basi intus puberuli, parte libera c. 0.45 cm longa, 0.22 cm lata; lobus intermedius porrectus, valde selliformi-convexus, supra visus spathulatus, triangulo-acuminatus, costa longitudinali angusta pubescenti ab incrassatione basilari decurrente apicem attingente, inexplanatus c. 0.875 cm longus, 0.56 cm, basi 0.3 cm latus, explanatus sexangulatus, triangulo-acuminatus, anguste obtusus, basi cuneatus, c. 0.925 cm longus, 0.7 cm latus. *Gynostemium* crassum, subrectum, dorso vix excavatum, apicem versus leviter incrassatum, utrinque leviter longitudinaliter 4costatum, basi subtus excavatum, ante excavationem transverse convexo-incrassatum, incrassatione antice in costam longitudinalem latam convexam utrinque excavatione longitudinali limitatam producta, subtus omnino puberulum, cum anthera c. 0.9 cm longum, clinandrio semilunato, margine angusto recurvulo, convexo cum costa longitudinali, auriculis latis angulato-rotundatis. *Anthera* cucullata, supra visa transverse ovali-oblonga cum connectivo magno valde convexo-incrassato, antice visa apice late rotundato-biloba cum sinu lato rotundato, c. 0.3 cm lata. *Pollinia* 2, a dorso compressa, subovali-orbicularia, latere fissa, c. 0.14 cm longa, stipite brevi, transverso, bipartito cum lobis oblique oblongi-triangulis acutiusculis, cum glandula triangula c. 0.17 cm longo, 0.175 cm lato. *Rostellum* breve, transverse subovali-excisum. *Stigma* subapicale, parvum, ambitu subquinquangulare constrictum. *Ovarium* curvatum, 6sulcatum, c. 1.1 cm longum; pedicellus teres, 1.3 cm longus.

SUMATRA. West coast: Boekit Batoe Banting (W. GROENEVELDT, cult. in Hort. E. JACOBSON sub n. 952; „peduncle olive green with purplish brown streaks, bracts light purplish yellow, pedicel white tinged and punctate crimson, ovary greenish white punctate light crimson, sepals and petals faintly yellowish white, the sepals towards the apex a little more greenish all outside with large irregular dark crimson blotches, lip white outside on the basal half a large oblong rosy blotch darker at the base, side-lobes flushed with rosy on both sides, one or two dark crimson dots on the inner margin, midlobe outside with an oblong dark crimson central blotch and sometimes with one or more smaller ones, a rosy blotch on each side, the margins crimson, the midrib inside brownish rosy the apical part yellowish white, the midlobe inside with 2 rosy dots, column white with a few indistinct rosy dots and streaks, yellow at the apex, anther cream coloured.").

Though I have not seen the vegetative parts I do not hesitate to describe this very distinct species.

In the long side-lobes of the lip it agrees with *D. elegans* J. J. S. and *D. parviflorum* J. J. S. but in all other respects it is totally different.

Description from a few inflorescences preserved in alcohol.

Thrixspermum agamense J. J. S., n. sp.

Caulis c. 20 cm longus, internodiis c. 1-1.6 cm longis, radicibus e parte superiore internodiorum, vaginam dorso perforantibus, patentissimis, tenuiusculis. *Folia* patentia, lanceolato-linearia, oblique obtusa vel subbilobula cum apiculo parvo, costa media subtus in sicco prominente, sicco c. 4.5-7.5 cm longa, 0.55-0.7 cm lata; vaginae tubulosae, internodia aequantes, sicco prominenter nervosae. *Inflorescentiae* e medio internodiorum, vaginam dorso perforantes, plerumque 2 superinpositae, satis remotae, infima novella, dense multiflorae, pedunculo elongato, tereti, apicem versus sensim incrassato, c. 5.5-22 cm longo, 0.06-0.1 cm, apice 0.15-0.24 cm diam., vaginulis c. 3 brevibus tubulosis donato, rachide incrassata, plus quam 1.3 cm longa, cum bracteis 0.65-0.95 cm diam. *Bracteae* valde approximatae, quaquaversae, patentes, rectae, subulatae, trigonae, basi dilatatae, c. 0.35-0.5 cm longae. *Flores* intervallis aperti, teneri, c. 1.2 cm lati, bene 1 cm longi, sepalis petalisque patentibus, concavis. *Sepalum dorsale* ellipticum, truncato-obtusum, basi unguiculato-contractum, 3nervium, fere 0.8 cm longum, 0.35 cm, basi 0.15 cm latum. *Sepala lateralia* late oblique rhombea, obtusa, basi unguiculato-contracta, 5nervia, costa media dorso incrassata, c. 0.7 cm longa, 0.46 cm lata. *Petala* oblique spathulata, leviter obtusangule falcatula, obtusa, 3nervia, ungue lineari-oblongo, lamina oblique ovali, c. 0.725 cm longa, 0.25 cm, ungue 0.14 cm lata. *Labellum* basi lata apici pedis gynostemii insertum, saccatum, 3lobum, ab apice lobi intermedii usque ad apicem ovarii 0.6 cm longum, ab apice loborum lateralium usque ad apicem sacci 0.85 cm, ab apice ovarii usque ad apicem sacci 0.5 cm metiens, explanatum c. 0.75 cm longum, 1 cm latum, callo transverso oblique porrecto truncato glabro intus in pariete antico in flexu, fascia longitudinali villosa postice a callo decurrente; lobi laterales erecti, leviter incurvuli, leviter concavi, late oblique trianguli, obtusissimi, margine postico rotundati, extus secundum marginem intusque longe clavato-pilosi, explanati lobum intermedium vix superantes; lobus intermedius brevis, porrectus, incurvulus, supra visus late triangulus, obtusissimus, concavus, carnosus, subtus infra apicem rotundato-calloso-incrassatus et inferne cum sacco sinum late rotundatum formans, breviter clavato-velutino-puberulus, explanatus late triangulus, obtusissimus, lobis lateralibus vix brevior c. 0.075 cm longus, 0.275 cm latus; saccus dorso pedem gynostemii continuum, supra basin valde rotundato-obtusangule incurvus, labelli parte antico fere aequilatus, obtusissimus, canalicula longitudinali late retusus, dorso usque ad apicem pedis gynostemii c. 0.4 cm longus. *Gynostemium* breve, rectum, a dorso compressum, latissimum, dorso convexum, apice valde angustato subtus visum ambitu quinquangulare, absque anthera c. 0.225 cm longum, bene 0.3 cm latum, clinandrio parvo, oblique truncato margine erosulo, lobulo postico producto bidentato erosuloque. *Anthera* cucullata, a dorso compressa, quadrangula, angulis dorsalibus rotundata, apice lato leviter rotundata minute retusa cum denticulo minimo in sinu, tenuis, c. 0.13 cm lata. *Pollinia* 4, oblique oblonga, apice vix angustata, obtusa, postica haud valde breviora, antica antice convexa, c. 0.08 cm longa,

stipite . . . *Rostellum* brevissimum. *Stigma* transversum latum. *Pes gynostemii* cum ovario angulum acutum faciens, gynostemio aequilatus, c. 0.15 cm longus. *Ovarium* teres, 6sulcatum, c. 0.6 cm longum.

SUMATRA. Bengkoeloe: Soeban Ajam (Exp. E. JACOBSON, AJOEB n. 312, 8 July 1916; „flowers yellow, lip dotted red").

Differing from the allied *Th. patens* J. J. S., sect. *Dendrocolla*, from Java in the not distinctly bilobed leaves, longer flowerstalks, longer bracts, a much broader column much narrowed at the apex.

Description from herbarium and inflorescences preserved in alcohol.

Thrixspermum simum J. J. S., n. sp.

Caulis brevis, compressus, c. 7 cm longus, c. 5-7folius, internodiis brevibus. *Folia* lanceolata vix acuminato-angustata, apice recurvula, 2dentata, dentibus triangulis obtusis crenulatis cum mucrone paulo longiore valde lateraliter compresso superimposito-bidentato interposito, basi conduplicata, margine superne subcrenulata, supra obtusangule canaliculata cum lateralibus convexis, subtus carinata, carnosa, c. 6.5-7 cm longa, 1.55-1.85 cm lata; vaginae breves, tubulosae, valde lateraliter compressae, ensiformes, apice oblique truncatae transverse rugulosae, c. 0.7-08 cm latae. *Inflorescentiae* vaginas dorso ad basin perforantes, multiflorae, diu flores gignentes, pedunculo tenui, tereti, c. 9-11.5 cm longo, vaginulis c. 3 brevibus tubulosis donato, rachide crassiore, compressa, flexuosa, quadrangula, 6.75 cm superante, cum bracteis 1.1-1.15 cm lata, internodiis facie florem versus spectante excavatis acutangulis c. 0.275 cm longis. *Bracteae* alternatim bifariae, patentes, lateraliter compresso-conduplicatae, alte concavae, margine superiore rachidem amplectente cum rachide angulum rectum margine inferiore cum rachide angulum obtusum facientes, valde late carinatae, a latere visae triangulae, margine superiore omnino 0.63-0.65 cm, dorso 0.6-0.65 cm longae. *Flores* intervallis aperti, c. 1.45 cm lati, sepalis petalisque patentissimis. *Sepalum dorsale* oblongo-ovale, rotundatum, dorso infra apicem conico-apiculatum, concavum, basi convexum, 3nervium, nervis exterioribus basi furcatis, c. 0.775 cm longum, 0.425 cm latum. *Sepala lateralia* ad pedem gynostemii decurrentia, late oblique ovata rotundata vel obtusissima, concava, dorso carinata, carina infra apicem abrupte terminante, 5nervia, c. 0.775 cm longa, 0.57 cm lata. *Petala* oblique obovata, oblique rotundata, basi margine antico leviter contracta concava basi convexa, 3(-4)nervia, c. 0.725 cm longa, 0.425 cm lata. *Labellum* apice pedis gynostemii insertum, breviter saccatum, 3lobum, ab apice lobi intermedii usque ad basin labelli c. 0.5 cm, ad apice loborum lateralium usque ad apicem sacci 0.57 cm metiens, callo magno carnoso antice viso transverse quadrangulo apice antice oblique truncato sectione transversa triangulo apice plus minusve retuso glabro postice in costam validam longitudinalem longe pilosam in pariete postico breviter pilosam saccum in loculos 2 dividentem intus in pariete antico; lobi laterales conspicui, erecti, supra gynostemium incuryi, oblique falcato-trianguli, obtusi vel oblique truncati, apice erosuli,

concavi, lobus intermedius porrectus, crassissime calliformis, a latere visus alte quandrangulus truncatus cum sacco angulum obtusum faciens, supra visus late triangulus, obtusissimus, basi concavus, c. 0.16 cm longus; saccus brevis, amplus, a latere visus rotundato-triangulus, antice visus quadrangulus truncatus canalicula longitudinali leviter retusus, dorso c. 0.34 cm longus. *Gynostemium* brevissimum, crassum, a latere visum triangulum, obtusum, absque anthera c. 0.25 cm longum, clinandrio liviter concavo. *Stigma* parvum, alte excavatum, transverse ellipticum. *Pes gynostemii* alte quadrangulus, concavus, c. 0.34 cm longus, cum gynostemio oblongus, a latere visus triangulus.

SUMATRA. Palembang: Goenoeng Dempo, 1700 m (Exp. E. JACOBSON, AJOEB n. 494, 17 August 1916; „flowers white").

The nearest ally of this species doubtless is *Th. purpurascens* RCHB.F. from Java, from which it principally differs in the very broad and short sac of the lip, and the midlobe being thicker. However, it would be interesting to compare more material of both species.

Description from herbarium and materials preserved in alcohol.

Thrixspermum cordulatum J. J. S., n. sp.

Caulis elongatus, scandens, sectione transversa ellipticus, cum costa in angulis, 0.225 cm latus, internodiis c. 2-3 cm longus, radicibus solitariis supra nodos ortis vaginam lateraliter perforantibus. *Folia* alternatim bifaria, brevia, sessilia, basi cordata fere amplexicaulia, oblongo-cordato-ovata, apice abrupte recurva, breviter triangulo-bidentata, costa media supra sulcata vel in foliis adultis prominula subtus carinata, carnosula, c. 2.6-3.1 cm longa, 1.15-1.45 cm lata; vaginae tubulosae, internodiis multo breviores, c. 0.7 cm longae. *Flores* distichi, intervallis aperti, mediocres. *Sepalum dorsale* ovali-oblongum, obtusissimum, basi contractum, concavum, 3nervium, c. 1.25 cm longum, 0.55 cm latum. *Sepala lateralia* e basi breviter unguiculata oblique oblongo-ovato-triangula, breviter acuminata, obtusa, concava, costa media dorso incrassata, c. 1.55 cm longa, basi 0.35 cm, supra basin 0.775 cm lata. *Petala* e basi unguiculato-contracta oblique elliptico-oblonga, obtusa, concava, apicem versus dorso incrassata, 3nervia, c. 1.23 cm longa, bene 0.5 cm, basi bene 0.2 cm lata. *Labellum* apici pedis gynostemii insertum, breviter saccatum, 3lobum, ex apice lobi intermedii usque ad apicem ovarii fere 1 cm, ex apice loborum lateralium usque ad apicem sacci 0.83 cm metiens, callo brevi rotundato supra leviter concavo intus inter lobos laterales; lobi laterales erecti, conspicui, late oblique trianguli, apice falcato-incurvi, margine postico valde rotundati et apicem versus minute serrulati; lobus intermedius satis conspicuus, porrectus, sacci pariete antico fere continuus, cum marginibus anticis loborum lateralium angulum rectum faciens, carnosus, breviter crasse conicus obtusus, basi concavus, papillosus, c. 0.45 cm longus; saccus brevis, pariete postico pede gynostemii continuus, rotundatus, intus pubescens, dorso 0.3 cm longus. *Gynostemium* breve, crassum, dorso convexum, apice obtusum, a latere visum oblique quadrangulum, subtus concavum, c. 0.275 cm longum, clinandrio

vix concavo. *Stigma* parvum, transverse fissuriforme. *Pes gynostemii* cum ovario gynostemioque angulos obtusos faciens, gynostemio multo tenuior, transverse quadrangulus, c. 0.3 cm latus. *Ovarium* gynostemio bene tenuius, 6sulcatum, c. 0.7 cm longum.

SUMATRA. West coast: Solok, Loeboek Soelasih (W. GROENEVELDT, cult. in Hort. E. JACOBSON sub n. 1721; „stems more than 1 m long, bracts, pedicel and ovary green, sepals and petals white, base greenish yellow, lip lemon-yellow, outside between the lobes dotted light brown, inside dotted light brown with the exception of the midlobe and the apex of the side-lobes, inside at the base with a rusty blotch, apex of midrib white, column white, with rusty transverse streaks at the base inside, anther white.").

Much resembling *Th. amplexicaule* RCHB. F. in habit but with the flowers of a different shape and differently coloured.

Description from materials preserved in alcohol.

Sarcochilus minimipes J. J. S., n. sp.

Folium (1 adest) lineari-lanceolatum, falcatum, ut videtur acutum (apice ultimo deficiente), supra in utraque parte costae mediae sulcatae leviter convexum, carnosulum, c. 4.7 cm longum, 0.25 cm latum. *Inflorescentia* dense multiflora, pedunculo tenui, apice obconico-incrassato, omnino muricibus patentissimis tecto, c. 3.1 cm longo, nonnullis vaginulis brevibus donato, rachide incrassato, 1.1 cm superante, cum bracteis c. 0.37 cm diam. *Bracteae* densissimae, quaquaversae, patentissimae, quadrangulae, canaliculatae cum lateribus convexis, carinatae, carina breviter apiculatae, c. 0.13 cm longae. *Flores* succedanei, c. 0.37 cm lati. *Sepalum dorsale* lanceolatum, apice incurvum, obtusum, breviter obuse apiculatum, concavum, basi convexum, 3nervium, costa media dorso prominente, c. 0.45 cm longum, 0.14 cm latum. *Sepala lateralia* reflexa, oblique oblongo-rhombea, obtusa, breviter apiculata, convexa cum sulco longitudinali, dorso carinata, 3nervia, c. 0.4 cm longa, 0.18 cm lata. *Petala* patentia, oblique lanceolata, falcatula, obtusa, interne angustata, basi leviter convexa cum sulco longitudinali, ceterum concava, nervo 1 dorso prominente, fere 0.4 cm longa, bene 0.1 cm lata. *Labellum* mobile, magnam partem e calcari, 3lobum, dorso undatum, ungue brevi obverse aequilateraliter trapeziformi et disco inter lobos laterales incrassatum et intus longitudinaliter sulcatum, 5nervium, e basi usque ad apicem calcaris c. 0.44 cm longum, e basi usque ad apicem loborum lateralium 0.225 cm metiens, ad lobos laterales 0.23 cm latum; lobi laterales ad faucem ampliatam calcaris erecti, porrecti, leviter divergentes, oblique ovato-trianguli, rotundati, leviter concavi; lobus intermedius margini antico calcaris insertus, recurvulus, porrectus, lobos laterales non superans, quinquangularis, margine apicali leviter erosulus, concavus, tenuis, intus utrinque infra sinus inter lobos callo instructus, c. 0.125 cm longus, inexplanatus bene 0.15 cm latus; calcar deorsum spectans, anguste oblongum, fauce ampliata subcylindricum,

apice vix recurvulo et a dorso compresso rotundatum cum costis 3 longitudinalibus, 0.14 cm latum. *Gynostemium* gracile, sigmoideum, apice obtusanguli incurvum, teres, c. 0.35 cm longum, clinandrio antico, semiovali, concavo, lobo postico bene producti obtuso. *Anthera* cucullata, ambitu ovata, e basi rotundato-quadrangula sensim in rostrum conspicuum triangulum acutum producta, bene 0.15 cm longa, 0.1 cm lata. *Pollinia* 2, leviter compressa, oblique obovoidea, basi dorso excavatione parva instructa, c. 0.05 cm longa, stipite lanceolato, basi angustato, apice obtuso, antice convexa apice concava, glandula subtriangula antice acutissima. *Rostellum* reflexum, elongatum, alte in lacinias subulatas bipartitum. *Stigma* alte excavatum, gynostemio aequilatum. *Pes gynostemii* abbreviatus, cum gynostemio angulum obtusum faciens, transverse quadrangulus, truncatus, vix 0.05 cm longus. *Ovarium* teres, 6sulcatum, c. 0.3 cm longum, cum pedicello tereti basi incrassato c. 0.25 cm longo sigmoideum.

SUMATRA. Westcoast: Agam, Batang Paloepoeh (W. GROENEVELDT, cult. in Hort. E. JACOBSON n. 81; „ovary yellow, sepals and petals dark yellow dotted brownish purple except at the tips, lip white flushed and grained with violet.

Very near *S. koeteiensis* SCHLTR. from Borneo but differing according to the description and sketch in the smaller flowers, colour, the spur not surpassing the sepals in length and not inflated at the apex but provided with 3 longitudinal ribs, the longer acutate anther, long rostellum.

In the shape ot the flower both species are very similar to *S. sigmoideus* RIDL. but that plant does not belong to the section *Ascochilus*, the inflorescences being wholly glabrous.

Description from a leaf and an inflorescence with one flower preserved in alcohol.

Ornithochilus fuscus WALL. in LNDL. Gen. et sp. Orch. (1832), 242; HOOK.F. Fl. Br. Ind. VI (1894), 76; in CURT. Bot. Mag. CXX (1898), t. 7385; KING and PANTH. in Ann. Calc. VIII (1898), 200, pl. 268; SCHLTR. Orch. (1915), 548.—*Aerides difforme* WALL. in LNDL. l.c. 242; Sert. Orch. (1838), frontisp. f. 7; RCHB.F. in Gard. Chron. 1865, 698; LNDL. in Journ. Linn. Soc. III (1849), 41; in WALP. Ann. VI (1861), 899. — *Ae. Hystrix* LNDL. in Journ. Linn. Soc. III (1849), 42. — *Ornithocephalus eublepharum* HANCE in Journ. Bot. XXII (1884), 364.

Habitu Phalaenopsis. *Caulis* brevis, c. 2.5 cm longus, basi radicans, c. 5folius. *Folia* patentia, basi leviter torta, oblique lanceolata ad oblonga, oblique acuminata, margine basi recurva costa media supra sulcata subtus obtuse prominente, carnosa, c. 8-13 cm longa, 2.3-3.5 cm lata; vaginae tubulosae, lateraliter compressae, breves, internodia superantes, apice c. 0.8 cm latae. *Inflorescentiae* 2 vaginas perforantes, multiflorae, pedunculo tereti, c. 5.7 cm longo, vaginulis c. 4 brevibus inferioribus tubulosis superioribus bracteiformibus adpressisque donato, rachide c. 1.8-2.3 cm longa. *Bracteae* parvae, patentissimae, triangulae, acutae, concavae, c. 0.13 cm longae.

Flores quaquaversi, c. 1.2 cm longi. *Sepalum dorsale* erectum, apice incurvum, oblongum, vix acuminatum, acutum, concavum, 3nervium, c. 0.6 cm longum, 0.25 cm latum. *Sepala lateralia* reflexa, oblique subelliptica, obtusiuscula, lacinia brevi oblique triangula ad pedem gynostemii decurrentia, concava, basi convexa, 3nervia, bene 0.5 cm, margine antico 0.66 cm longa, 0.3 cm lata. *Petala* patentia, divergentia, leviter incurvula, oblique lanceolata, obtusa, apice erosula, concava, 1nervia, c. 0.43 cm longa, 0.13 cm lata. *Labellum* submobile, supra unguem brevem pedi gynostemii adpressum, rectangule recurvum, 3lobum, calcaratum, a basi usque ad apicem lobi intermedii c. 0.73 cm, e basi usque ad apicem calcaris 0.575 cm, ab apice lobi intermedii usque ad apicem calcaris 0.825 cm metiens, ungue oblongo-quadrangulo 5nervio, pariete postico intus inter lobos laterales longitudinaliter 6costato, lamella transversa porrecta intus in pariete postico in flexu ad basin calcaris, callo truncato subretuso extus infra sinum inter lobum medium et lobos laterales; lobi laterales basi lata inserti, verticales, divergentes, oblique subquadranguli, margine postico pedi gynostemii adpressi, angulo apicali paucidenti, margine antico inferne in lobulum obtusangule triangulum carnosulum incurvum dilatati; lobus intermedius magnus, porrectus, unguiculatus, 3lobulatus, inexplanatus bene 0.5 cm latus, costa conspicua longitudinali alta a latere visa triangula margine postico exciso apice recurva obtusa in lobo intermedio, lamella longitudinali breviter in calcar decurrente puberulaque antice in callum carnosum obtusangule triangulum pone apicem glabrum longe flabellato-pilosum producta postposita, lobulis lateralibus conspicuis margine postico valde recurvo margine antico valde incurvo verticalibus postice divergentibus antice angulum rectum facientibus valde falcatis ambitu suborbicularibus alte radiato-subulato-laceratis, lobulo intermedio porrecto-brevi, obtusangule triangulo, carnosulo; calcar reversum, cum labelli parte inferiore angulum obtusum faciens, ungui subparallelum, subteres, in $^2/_5$ partibus supra basin obtusangule incurvum, obtusum, fauce inter partes anticas loborum lateralium, c. 0.55 cm longum. *Gynostemium* satis longum, conspicue curvatum, basi antice incrassatum, dorso convexum, clinandrii lobo postico conspicue producto carnoso rotundato subcrenulato, bene 0.4 cm longum. *Anthera* cucullata, rostello multo brevior, e basi suborbiculari in rostrum conspicuum fere aequilatum quinquangulare breviter acuminatum acutum supra convexum cum sulco longitudinali tenue producta, c. 0.12 cm lata, fere 0.2 cm longa. *Pollinia* 4, rotundato-triangula, 2 postica anticis multo minora, stipite cuneato-obovato apice late rotundato basi acuto tenui cum glandula quadrangula antice paulo dilatata rotundataque 0.2 cm longo. *Rostellum* maximum, reversum, oblongum, 2fidum, laciniis oblique linearibus obtusis. *Stigma* alte excavatum, latum, rotundato-quadrato-rhombeum. *Pes gynostemii* brevis, reversus, cum ovario angulum acutum faciens, oblongus, inconspicue canaliculatus, carnosus, bene 0.1 cm longus. *Ovarium* teres, 6sulcatum, c. 0.45 cm longum; pedicellus aequicrassus, teres, c. 0.7 cm longus.

SUMATRA. West coast: Solok, Gadang Beo (A. V. THEUNISSEN, cult. in Hort. E. JACOBSON sub n. 1958; „leaves and peduncle green, bracts transparently yellow with a purple tip, pedicel and ovary yellowish green the former purple at the base, sepals transparently greenish yellow with 4 light reddish purple longitudinal streaks not reaching the apex, petals greenish yellow, with 2 light reddish purple streaks especially on the basal half, lip transparently greenish yellow outside for the greater part covered with purple streaks, midlobe white with a broad purple border, column light green dotted purple at the back and bordered purple at the apex, rostellum light green, anther light yellow.").

The inflorescences at hand are very short which may be ascribed perhaps to the fact that the plants were cultivated under less favourable circumstances.

I have given a full description as the species had not previously been recorded from the Malayan Archipelago.

The number of pollinia is ordinarily given as two, but indeed there are four, the two posterior ones being much smaller than the others.

Description from materials preserved in alcohol.

Camarotis costulata J. J. S., n. sp.

.... *Inflorescentia* simplex, multiflora, pedunculo tereti, c. 8 cm longo, nonnullis vaginulis brevibus tubulosis obtusis donato, rachide paulo crassiore, angulata sulcataque, c. 10 cm longa. *Bracteae* breves, adpressae, triangulae, obtusae, erosulae, concavae, c. 0.2 cm longae. *Flores* quaquaversi, patentes, carnosi, c. 1.55 cm longi, 1.3 cm lati, sepalis in spiritu vini intus furfuracee nigropunctatis petalisque patentissimis. *Sepalum dorsale* oblongo-quinquangulare, superne paulo dilatatum, apice angustatum, obtusum, concavum, 5nervium, c. 0.7 cm longum, 0.4 cm latum. *Sepala lateralia* ad pedem gynostemii decurrentia, divergentia, oblique falcato-spathulato-obovata, brevissime acuta, basi valde obliqua, leviter concava, 5nervia, c. 0.75 cm longa, bene 0.4 cm lata. *Petala* divaricata, oblique oblonga, obtusa, leviter concava, intus ad basin parce punctata, 5nervia, c. 0.63 cm longa, 0.3 cm lata. *Labellum* patentissimum, calceiforme, leviter sigmoideum, unguiculatum, 3lobum, calcaratum, supra visum oblongum, a latere visum triangulum, totum c. 0.85 cm, usque ad apicem lobi intermedii 0.65 cm longum, ex apice lobi intermedii usque ad apicem calcaris fere 0.6 cm metiens, subtus longitudinaliter sulcatum, ungue carnoso subtereti, costis 2 marginalibus in margines loborum lateralium decurrentibus instructis, costa tertia conspicua superne incrassata interposita; lobi laterales ad faucem calcaris erecti, trianguli, subquadranguli, basi latissimi angulis anticis subrectanguli, margine antico incurvi; lobus intermedius ad faucem calcaris erectus, loborum lateralium marginibus anticis incurvis adpressus, carnosus, quadrangulus, apice obtuse triangulo-contractus, lobis lateralibus aequialtus, intus callo crasse conico apice recurvo donatus, inferne lamella paulo longiore carnosa bilobula callo adpressa; calcar porrectum,

leviter incurvulum, a dorso compressum, supra visum ovatum, obtusum, antice 7costulatum, intus apice septatum. *Gynostemium* semitortum, infra stigma callo convexo donatum, usque ad apicem rostelli c. 0.5 cm longum clinandrio concavo cum costa longitudinali pariete postico brevi rotundato. *Anthera* cucullata, ovato-triangula, anguste obtusiuscula, basi truncata, c. 0.2 cm lata. *Rostellum* satis longum, porrectum, semitortum, bipartitum, laciniis oblique linearibus obtusis. *Stigma* alte excavatum e basi satis lata canaliculato-producta. *Ovarium* 6sulcatum, atrofurfuraceum (in spiritu vini), c. 1.3 cm longum.

SUMATRA. West coast: Agam, Batang Paloepoeh (W. GROENEVELDT, Cult. in Hort. E. JACOBSON n. 1450; „peduncle dead green, basal half with purplish brown dots, bracts dirty yellowish green, pedicel and ovary light yellowish green with warty dots, flowers wax-yellow, sepals and petals dead inside, shiny outside, dorsal bordered light brownish yellow inside light brownish purple inside, lateral sepals bordered light brownish purple, the half turned towards the lip with 4 indistinct brownish purple longitudinal stripes, spur with grained brownish purple longitudinal streaks, mouth of spur yellow, column transparently wax-yellow, anther light yellowish brown with a brownish purple streak.").

Though I have not seen the vegetative parts I do not hesitate to describe this species. It differs from *C. papuana* J. J. S. in the shape of the lip, the ribbed spur and the twisted column, from *C. proboscidea* J. J. S. in the shape of the lip and the shorter rostellum and from *C. callosa* J. J. S. in the broader floral segments, the shape of the lip and a much longer rostellum.

Description from an inflorescence preserved in alcohol.

Camarotis latisaccata J. J. S., n. sp.

Caulis . . . *Folia* breviter loriformia, apice aequaliter vel inaequaliter rotundato-biloba, costa media sicco supra sulcata subtus carinata, margine recurva, crasse rigide coriacea, c. 7.9-8.9 cm longa, 1.5-1.6 cm lata. *Inflorescentiae* dense multiflorae, pedunculo tereti, parte adest 9.5-10 cm longo, vaginulis c. 3 brevissimis tubulosis donato, rachide obtusangule recurva, incrassatula, 7-7.5 cm longa, internodiis c. 0.15-0.5 cm longis. *Bracteae* patentissimae, parvae, triangulae, concavae. *Flores* quaquaversi, c. 1.7 cm longi, ad petala 1.4 cm lati. *Sepalum dorsale* cum gynostemio ovarioque angulos acutos faciens, subovato-oblongum, apice angustatum, obtusum, basi latum, 5nervium, c. 0.7 cm longum, 0.375 cm latum. *Sepala lateralia* ad pedem gynostemii decurrentia, revoluta, valde convexa, late oblique subovalia, praesertim margine antico rotundata, obtusa, 5nervia, c. 0.65 cm longa, 0.4 cm lata. *Petala* reflexa, oblique subelliptico-oblonga, obtusa, 3nervia, nervis exterioribus basi furcatis, c. 0.65 cm longa, 0.3 cm lata. *Labellum* pede gynostemii continuum, calceiforme, 3lobum, calcaratum, totum usque ad apicem ovarii c. 0.9 cm longum; lobi laterales ad faucem calcaris, parvuli, margine antico ante basin lobi intermedii incurvi, margine postico sensim

ad pedem gynostemii decurrentes, parte libera trianguli, leviter contracti, obtusi, intus incrassati; lobus intermedius parvus, margini antico loborum lateralium subadpressus, cum facie antica calcaris angulum obtusum faciens, crasse carnosus, late triangulus, obtusus, vix retusus, callo erecto lateraliter compresso-conico obtuso antice in formam costulae longitudinalis sulcatae versus apicem decurrente in basi, c. 0.15 cm longus; calcar pedem gynostemii continuum, leviter incurvulum, in genere latissimum, parte inferiore labelli multo latius, a dorso compressum, antice visum suborbiculare, nervis in flore macerato prominulis, usque ad basin lobi intermedii c. 0.45 cm longum 0.5 cm latum, septo longitudinali verticali biloculare, lamella transversa parietem anticum non attingente clausum. *Gynostemium* etortum, curvulum, cum ovario angulum obtusum faciens, subtus ad basin incrassatum, usque ad apicem rostelli c. 0.575 cm longum, clinandrio concavo costula longitudinali ad basin rostelli in callum terminante in clinandrii lobulo postico satis producto incurvulo triangulo acuto in dentem incurvulum (filamentum) exeunte biloculari, auriculis obtusis, pede cum ovario angulum obtusum cum ovario angulum rectum faciente, recto, carnoso, sectione transversa quadrangulo, inter lobos laterales costulis 2 longitudinalibus instructo. *Anthera* cucullata, antice visa subsemiorbicularis, apice breviter lateque producta et obtuse tridentata, dente intermedio exteriores paulo superante, bene 0.2 cm lata. *Stipes polliniorum* longissimus, tenuiter filiformis, glandula parva. *Rostellum* elongatum, lineare, basi dilatatum, longitudinaliter sulcatum. *Stigma* magnum, faciem anticam gynostemii fere omnino occupans, longitudinale, oblongo-ovale, apicem versus paulo angustatum. *Ovarium* pedicellatum c. 1.15 cm longum.

BORNEO. Western Division: Kapoeas (J. E. TEYSMANN n. 8445).

When I first saw the material consisting of two leaves and two inflorescences I looked upon it as a *Pomatocalpa* mislead by the broadly rounded spur. On examination it proved to be a true *Camarotis*. It belongs to the species with the column not twisted.

Description from herbarium.

Trichoglottis quadricornuta J. J. S., n. sp.

Caulis elongatus, rigidus, scandens, radicans, sectione transversa ellipticus cum costa angusta longitudinali in angulis, pars adest c. 24 cm longa, internodiis c. 0.8-1.1 cm longis. *Folia* patentissima, breviter loriformia, apice inconspicue contracta, paulo inaequaliter rotundato-biloba cum mucrone subulato-trigono aequilongo interposito, costa media supra sulcata subtus carinata, c. 5.4-7.9 cm longa, sicco 1.25-1.45 cm lata; vaginae tubulosae, internodia vix superantes, sectione transversa ellipticae, dorso acute carinatae. *Inflorescentiae* e nodis caulium, brevissimae, 1-2(?)florae, pedunculo vix 0.3 cm longo. *Bracteae* minimae, triangulae. *Flores* mediocres, carnosuli, c. 2.65 cm lati, sepalis petalisque patentissimis, sicco maculatis. *Sepalum dorsale* lanceolatum, obtusum, dorso acute conico-apiculatum, basi breviter contractum, vix concavum, 5nervium, c. 1.3 cm longum, 0.375 cm latum. *Sepala lateralia*

divergentia, angulum acutum facientia, oblique elliptico-lanceolata, subsigmoidea, unilateraliter acuminata, acuta, leviter concava, costa media dorso praesertim apicem versus carinata, 5nervia, c. 1.4 cm longa, 0.55 cm lata. *Petala* patentissima, oblique lineari-lanceolata, acuta, basi longe angustata, 3nervia, c. 1.325 cm longa, fere 0.2 cm lata. *Labellum* porrectum, multiplex, angustum, 3lobum, basi pedi gynostemii abbreviato sacculato-adnatum, sacculo lamella porrecta horizontali cuneato-oblonga apice divergenter triangulo-bilobula parce ciliata obtecto, subtus inter lobos laterales carina longitudinali obtusa in basi lobi intermedii evanescente instructum, totum c. 1.1 cm, usque ad apicem loborum lateralium 0.4 cm longum; lobi laterales erecti, basi lata inserti, longitudinales, parallelogrammiformes, postice pedi gynostemii adnati, antice obtusanguli, carnosuli, antice inter marginem nonnullis pilis patentissimis instructi; lobus intermedius porrectus, carnosus, subtus visus oblongo-cuneatus, apice 3dentatus, dentibus exterioribus divergentibus falcato-triangulis incurvis acutiusculis, dente intermedio longiore angustiore subtus viso lineari acuto; trigono apice tantum libero, subtus concavus cum sulco longitudinali, supra valde longitudinaliter carinatus, carina alta carnosa valde lateraliter compressa basi abrupta dorso ad basin utrinque callo parvulo rotundato donata apice decrescente et in appendicem porrectam carnosulam a dorso compressam ligulatam apice paululum dilatatam breviter et triangulo-angustatam obtusiusculam glabram convexam basi denti mediano lobi intermedii adnatam et bene longiorem producta appen- pice excepta patentissime hirsuta, c. 0.7 cm longus, appendice carinae c. 0.15 cm longa. *Gynostemium* breve, crassum, rectum, papillosum, absque anthera c. 0.3 cm longum, clinandrio concavo cum costa longitudinali, auriculis brevibus porrectis dentiformibus obtusis, pede triangulo carnoso. *Stigma* alte excavatum, quadrilobulatum. *Ovarium* pedicellatum 6sulcatum, c. 1.8 cm longum.

BORNEO. Koetai (Cult. in Hort. W. C. VAN GELDER, Tenggarong, sub n. 24).

One of those curious species of the most interesting genus *Trichoglottis*. Though it shows affinities to several of the species, I know none with which it is nearly related.

Description from herbarium.

Robiquetia anceps J. J. S., n. sp.

Caulis validus, flexuosus, compressus, partes adsunt 8.5-13.5 cm longae, internodiis 1-2.6 cm longis. *Folia* patentissima, oblongo-loriformia, apice aequaliter vel inaequaliter rotundato-biloba, subtus acute carinata, c. 6.5-13 cm longa, 2-2.85 cm lata; vaginae tubulosae, internodia vix superantes, valde a latere compressae, dorso anticeque late acute carinatae, ancipites, apice antice excisae, sicco apice c. 1.25-1.5 cm latae, basin versus paulo angustatae. *Inflorescentiae* vaginam dorso ad basin perforantes, deorsum spectantes, folia multo longiores, simplices, dense multiflorae, secundae,

pedunculo glabro, c. 8-15.75 cm longo, vaginulis c. 4-5 brevibus tubulosis donato, rachide sicco angulata, glabra, c. 6-8.75 cm longa. *Bracteae* lanceolato-subulatae, sensim angustissime angustatae, sicco ad c. 0.5 cm longae. *Flores* c. 0.87 cm longi, sepalis petalis labelloque dorso parcissime furfuraceo-punctatis. *Sepalum dorsale* cum ovario angulum obtusum faciens, oblongum, obtusum, vix acute apiculatum, concavum, 3nervium, c. 0.4 cm longum, fere 0.2 cm latum. *Sepala lateralia* porrecta, oblique ovalia ad subobovato-oblonga, obtusa, brevissime acute apiculata, 3nervia, c. 0.4 cm longa, 0.24 cm lata. *Petala* oblique oblonga, subfalcatula, obtusa, concava, 1nervia, c. 0.3 cm longa, 0.125-0.13 cm lata. *Labellum* basi pedi gynostemii adnatum, valde concavum, 3lobum, calcaratum, usque ad apicem ovario c. 0.3 cm, cum calcari 0.67 cm longum; lobi laterales porrecti, verticales, gynostemium paulo superantes, oblique rotundati, concavi; lobus intermedius brevis, laterales paululum superans, obtusangule incurvus, adscendens, leviter a latere compressus, 3lobulatus, lobulis lateralibus erectis parallelis rotundato-triangulis carnosis intus convexis lobulo intermedio iterum obtusangule incurvo minuto patente transverso tenui subquadrato obtuso; calcar cum ovario angulum acutum faciens, dorso versus apicem leviter incurvulum, subtus medio fere obtusangule incurvum, in flexu constrictum, parte inferiore oblique infundibuliformi, parte superiore ovali, obtusum, callo squamiformi porrecto horizontali parieti utrinque adnato intus in pariete antico in flexu, c. 0.45 cm longum. *Gynostemium* brevissimum, crassum, dorso convexum, apice contractum, cum anthera c. 0.175 cm usque ad rostelli apicem 0.2 cm longum, clinandrio concavo margine utrinque lobulo parvo obtuso apicem rostelli versus spectante instructo, lobo postico producto obtuso, filamento clinandrii lobo postico intus adnato et bene longiore subulato falcatulo-incurvo. *Anthera* cucullata, e basi subglobosa in rostrum conspicuum recurvum triangulum acutum producta, connectivo in parte inferiore cariniformi antice in dentem triangulum terminante, fere 0.15 cm longa. *Pollinia* 2, parva, fissa, suborbicularia, stipite elongato lineari reverse conduplicato apice dilatato et acutangule recurvo, cum glandula conspicua oblongo-ovata convexa 0.175 cm longo. *Rostellum* magnum, porrectum, 2fidum, laciniis divergentibus verticalibus oblique oblongis vix falcatulis anguste obtusis margine antico basi Vformiter confluentibus margine postico membrana transversa horizontali fere ad medium unitis. *Stigma* parvulum, alte excavatum. *Ovarium* 6sulcatum, parce furfuraceo-punctatum, c. 0.5 cm longum.

TERNATE: Foramadiahi, c. 1000 m, epiphytical in forest, social (V. M. A. BEGUIN n. 1459, 5 March 1921; „plant 70 cm long, dependent, ramified, leaves thick, dull, somewhat greenish violet at the top, flowers orange yellow").

Differing from *R. Minahassae* (SCHLTR.) J. J. S. which has similar flowers in the compressed stems, shorter leaves, longer and unbranched inflorescences, smaller differently coloured flowers, rounded side-lobes and a shorter thicker spur.

Description from herbarium.

Malleola dentifera J.J.S., n. sp.

Caulis elongatus, dependens, apice incurvus, radicans, flexuosus, subteres, c. 37-47 cm longus, 0.35 cm diam, internodiis c. 1.4-1.5 cm longis. *Folia* patentissima, basi semitorta, anguste lanceolata, apicem versus angustata subconduplicataque, apice obliqua, dimidio longiore obtusa, dimidio breviore acuta, basi angustata canaliculataque, laxe undulata, supra in utraque parte costae mediae supra canaliculatae subtus obtuse prominentis convexa, carnosa, c. 8.5-10 cm longa, 1.7-2.15 cm lata; vaginae tubulosae, internodiis subaequilongae, sectione transversa subellipticae, dorso anticeque costa longitudinali instructae, parce longitudinaliter costulatae rugulosaeque, c. 0.45 cm latae. *Inflorescentiae* e nodis caulium in flexibus, vaginam perforantes, deorsum spectantes, densius multiflorae, pedunculo c. 1.6 cm longo, basi cauli adpresso, nonnullis vaginulis brevibus tubulosis donato, rachide angulata, longitudinaliter costata, c. 7.5 cm longa. *Bracteae* adpressae, triangulae, acutae, concavae, c. 0.2 cm longae. *Flores* quaquaversi, patentissimi, c. 0.65 cm lati, 0.8-0.85 cm longi, sepalis petalisque patentissimis incurvulis carnosulis margine tenuioribus. *Sepalum dorsale* valde cucullato-concavum, ellipticum, obtusum, basi contractum, 3nervium, c. 0.47 cm longum, plane explanatum c. 0.325 cm latum. *Sepala lateralia* oblique elliptica, obtusiuscula, basin versus angustata, valde concava, 3nervia, c. 0.43 cm longa, 0.26 cm lata. *Petala* oblique elliptica, apice breviter oblique contracta, oblique truncata erosulaque, concava, 3nervia, c. 0.34 cm longa, bene 0.2 cm lata. *Labellum* basi gynostemii (pedi) breviter adnatum, 3lobum, calcaratum, totum fere 0.7 cm longum, 0.2 cm latum; lobi laterales sub gynostemio porrecti margine postico pedi gynostemii adnati, parte libera verticales, trianguli, margine antico incurvi, concavi, carnosuli, gynostemium subaequantes, 3dentati, dente postico brevi obtusangulo, dente intermedio ceteros superante triangulo acuto apice incurvulo, dente antico brevi subrectangulo; lobus intermedius porrectus, carnosulus, e basi triangula linearisubulato-contractus revolutusque, basi intus convexo-incrassatus sed non callifer, lobos laterales paululum superans; calcar reversum, ovario subparallelum, rectum, subtus visum lineari-oblongum medio vix contractum, c. $^2/_3$ partibus inferioribus subcylindricum, $^1/_3$ parte superiore a dorso compressum, obtusissimum subtus costulis 3 longitudinalibus prominulis. *Gynostemium* breve, crassum, apice recurvulum, absque anthera c. 0.225 cm longum, lobo crasso rotundato praesertim interius puberulo in utraque rostelli parte, clinandrio parvo margine 3dentato, dente intermedio brevissimo crasso, dentibus lateralibus majoribus erectis triangulis obtusis. *Anthera* conspicua, cucullata, subovato-quadrangula, ultra thecas in appendicem magnam aequilatam quinquangularem triangulo-contractam obtusam vix retusam valde incurvam producta, tenuis, c. 0.2 cm longa. *Pollinia* 2, subglobosa, sulcata, stipite spathulato dorso concavo apice medio conduplicato tenui cum glandula parva c. 0.18 cm longo. *Rostellum* postice bidentatum. *Stigma* alte excavatum, transverse subovale. *Ovarium* 6sulcatum, c. 0.27 cm longum; pedicellus basi incrassatus, c. 0.325 cm longus. *Capsula* immatura reflexa, clavata, rotundato-trigona,

costa sulcata sulcis limitata in lateribus, oblique obtusa, c. 1.4 cm longa, 0.5 cm diam., pedicello 0.4 cm longo.

SUMATRA. West coast: Agam, Batang Paloepoeh (W. GROENEVELDT, cult. in Hort. E. JACOBSON sub nrs. 3 and 1183; „stem brownish purple, leaves dark dull green for the greater part especially the lower surface flushed with brownish purple, peduncle and bracts green flushed with purple, pedicel and ovary very light green, sepals and petals transparently light brownish yellow, inside with 2 longitudinal grained purple streaks not reaching the base and apex, purple blotches at the base, lip and spur yellowish white, tip of spur transparent, side-lobes dotted purple inside, between the side-lobes and column there are on each side 2 purple streaks from the margin to deeply in the spur, column yellowish white with a purple streak on each side, anther yellowish white marked purple, pollinia yellow.").

The nearest allies of this species seem to be *M. javanica* J. J. S. from Java, *M. uncinata* J. J. S. from Ambon and *M. gautierensis* J. J. S. from New-Guinea, especially the former, from which it differs in the broader leaves, smaller differently coloured flowers, a straight spur not retuse at the apex, dentate side-lobes, the midlobe thickened inside.

Description from materials preserved in alcohol.

Gastrochilus sumatranus J. J. S., n. sp.

Caulis simplex, elongatus, dependens, apice incurvus, leviter serpentinus, sectione transversa subovalis, c. 0.5 cm latus, internodiis c. 1.75-2.1 cm longis. *Folia* patentia, basi semitorta, loriformi-lanceolata, apice valde inaequaliter profundeque bidentata, dentibus oblique triangulis obtusis denticulatis, dente longiore c. 1.1-1.2 cm longo, supra in utraque parte costae mediae supra sulcatae subtus obtuse prominentis apicem versus carinatae leviter convexa, carnosa, c. 11-15 5 cm longa, 1.85-2.1 cm lata; vaginae tubulosae, internodiis paulo breviores, sectione transversa ellipticae, opacae, c. 0.6 cm latae. *Inflorescentiae* e nodis caulium, 2-3 superimpositae, erectae vel erecto-patentes, breves, laxius 4-10florae, pedunculo subtereti, crassiusculo glabro c. 1.4-1.75 cm longo, nonnullis vaginulis brevissimis tubulosis ad triangulis donato, rachide angulata ad c. 1.75 cm longa. *Bracteae* patentes, triangulae, obtusae, concavae, carnosae, dorso ad c. 0.25 cm longae. *Flores* quaquaversi, mediocres, carnosi, c. 1.5 cm lati, sepalis petalisque patentissimis. *Sepalum dorsale* cum ovario angulum obtusum faciens, oblongum, obtusissimum, leviter concavum, dorso convexum, versus marginem attenuatum, 3nervium, c. 0.75 cm longum, fere 0.4 cm latum. *Sepala lateralia* divaricata, oblique oblonga, basi vix angustata, marginem versus attenuata, dorso convexa cum costa media vix prominula, 3nervia, c. 0.75 cm longa, fere 0.4 cm lata. *Petala* divaricata, oblique oblonga, obtusa, margine apicali recurvula, basin versus vix angustata, intus versus apicem extusque convexa, marginem versus attenuata, 3nervia, bene 0.7 cm longa, 0.3 cm lata. *Labellum* basi gynostemio breviter adnatum, late saccatum, 3lobum, carnosum,

c. 0.8 cm longum, e basi usque ad apicem loborum lateralium c. 0.5 cm, e basi usque ad apicem sacci 0.55 cm metiens; lobi laterales ad faucem sacci erecti, latissimi, breves, margine antico incurvi et ante basin lobi intermedii connati sinu obtusangulo tantum sejuncti; lobus intermedius porrectus, recurvus, sessilis, convexus, subtus concavus medio tantum longitudinaliter carnoso-incrassatus, hastatus, margine omnino laceratus, excavatione triangula supra ad basin, intus praesertim ad basin muricatus, inexplanatus, vix 0.3 cm longus, basi 0.75 cm latus, lobulis basilaribus divaricatis oblique oblongis vel plus minusve triangulis truncatis obtusisve tenuibus, lobulo intermedio subsemiorbiculari 0.4 cm lato; saccus deorsum spectans, amplus, oblique rotundato-conicus, nudus, crasse carnosus, fauce ad lobos laterales 0.5 cm latus. *Gynostemium* brevissimum, crassum, apice truncatum, minute papillosum absque anthera c. 0.2 cm longum, fere 0.4 cm latum, clinandrio plano excavationibus 2 collateralibus leviter concavis orbicularibus cum dente conico interposito instructo. *Anthera* cucullata, transverse quadrangula, in rostrum satis conspicuum triangulum apice vix recurvulum truncatum vel subretusum acuminata, inter thecas late canaliculata, c. 0.2 cm lata. *Pollinia* 2, subglobosa, perforata, c. 0.1 cm diam., stipite lineari supra basin glandula parallelam recurvo apice paulo dilatato cum glandula oblonga convexa antice rotundata postice breviter bilobula c. 0.21 cm longo. *Rostellum* deorsum spectans, ambitu quadrangulum, in lacinias 2 triangulas partitum. *Stigma* alte excavatum, transversum, margine inferiore leviter rotundatum utrinque in lobulum triangulum acutum exiens. *Ovarium* crassum, 6sulcatum, fere 0.9 cm longum. *Capsula* immatura reflexa, clavata, reliquiis floris coronata, basi acuta, costis 6 crassis sulcis altis sejunctis, c. 2.3-2.5 cm longa, 0.85 cm diam., pedicello 0.45-0.5 cm longo.

SUMATRA. West coast: Goenoeng Singgalang, 1600 m (E. JACOBSON, cult. sub nrs. 1313, 1314, 1316; „peduncle green with a few brown dots, bracts, pedicel and ovary light green, sepals and petals transparently greenish yellow dotted purplish brown inside, lip waxy white, tip of spur yellow, spur inside dotted purple especially on the bottom, outside with a few purple dots, midlobe with a yellow, purple dotted central blotch, side-lobes with a purple blotch along the margin, column spotted light purple, anther yellow with a white beak.").

Recalling to mind *G. acutifolius* (LNDL.) O.K. from Sikkim Himalaya, but with the inflorescences not corymbose or umbellate and the sepals and petals less narrowed to the base.

Description from materials preserved in alcohol.

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